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## Sequence Listing

Baker, Kevin P.
Botstein, David
Desnoyers, Luc
Eaton, Dan 1.
Ferrara, Napoleone
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<223> Glycosaminoglycan Attachment Site.
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 Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
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Ala	Phe	Gly	Val	His 200	Val	Ser	Cys	Ile	Glu 205	Pro	Gly	Leu	Phe	Lys 210
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Ile	Trp	Glu	Gln	Leu 230	Ser	Pro	Asp	Ile	Lys 235	Gln	Gln	Tyr	Gly	Glu 240
Gly	Tyr	Ile	Glu	Lys 245	Ser	Leu	Asp	Lys	Leu 250	Lys	Gly	Asn	Lys	Ser 255
Tyr	Val	Asn	Met	Asp 260	Leu	Ser	Pro	Val	Val 265	Glu	Cys	Met	Asp	His 270
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Pro	His	Leu	Gln,	Ile 170	Arg	Pro	Pro	Ser	Gln 175	Asp	Leu	Lys	Asp	Gly 180
Thr	Gln	Glu	Glu	Ala 185	Thr	Lys	Arg	Gln	Glu 190		Pro	Val	Asp	Pro 195
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Cys	Tyr	Gln	Met	Asn 560		Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
т1.	u_1	uic	Dho	Aen	T. 211	ጥላንም	Pro	Gln	Pro	Glv	Ara	Ara	Asp	Val

575 580 585 Glu Val Lys Pro Ala Asp Arg His Asn Leu Leu Arg Pro Glu Thr Val Glu Ser Leu Phe Tyr Leu Tyr Arg Val Thr Gly Asp. Arg Lys 610 605 Tyr Gln Asp Trp Gly Trp Glu Ile Leu Gln Ser Phe Ser Arg Phe 625 Thr Arg Val Pro Ser Gly Gly Tyr Ser Ser Ile Asn Asn Val Gln 635 Asp Pro Gln Lys Pro Glu Pro Arg Asp Lys Met Glu Ser Phe Phe Leu Gly Glu Thr Leu Lys Tyr Leu Phe Leu Leu Phe Ser Asp Asp 665 Pro Asn Leu Leu Ser Leu Asp Ala Tyr Val Phe Asn Thr Glu Ala 680 685 His Pro Leu Pro Ile Trp Thr Pro Ala 695 <210> 13 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 13 cgccagaagg gcgtgattga cgtc 24 <210> 14 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 14 ccatccttct tcccagacag gccg 24 <210> 15 <211> 44 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 15

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Pro	Pro	Glu	Pro	Pro 80	Pro	Glu	His	Trp	Glu 85	Glu	Asp	Ala	Ser	Trp 90
Gly	Pro	His	Arg	Leu 95	Ala	Val	Leu	Val	Pro 100	Phe	Arg	Glu	Arg	Phe 105
Glu	Glu	Leu	Leu	Val 110	Phe	Val	Pro	His	Met 115	Arg	Arg	Phe	Leu	Ser 120
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- Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Pro Pro Ser 35 40 45
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- tggtgtgcag cagcctggaa ctcgcgcagg tcctgccccc agatactctg 450

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<sup>&</sup>lt;211> 616

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> sig\_peptide

<sup>&</sup>lt;222> 1-33

<sup>&</sup>lt;223> Signal peptide.

<sup>&</sup>lt;220>

<sup>&</sup>lt;221> TRANSMEM

<sup>&</sup>lt;222> 13-40

<sup>&</sup>lt;223> Transmembrane domain (type II).

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	Gly	Gly	Gly	Gly	Gly 35	Ala	Ala	Ala	Leu	Pro 40	Ala	Gly	Cys	Lys	His 45
	Asp	Gly	Arg	Pro	Arg 50	Gly	Ala	Gly	Arg	Ala 55	Ala	Gly	Ala	Ala	Glu 60
	Gly	Lys	Val	Val	Cys 65	Ser	Ser	Leu	Glu	Leu 70	Ala	Gln	Val	Leu	Pro 75
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	Ser	Leu	Glu	Phe	Gln 185	Thr	Glu	Tyr	Leu	Leu 190		Asp	Cys	Asn	Ile 195
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	Glu	ı Gly	Asp	Ser	Leu 260		Phe	e Gln	Cys	Met 265		Ser	Туг	Ile	Asp 270
	Glr	n Asp	Met	: Glr	val 275		Trp	туг	Glm	1 Asp 280		Arg	ı Ile	e Val	. Glu 285

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Asn	Cys	Ser	Leu	Ile 305	Ala	Ser	Ala	Leu	Thr 310	Ile	Ser	Asn	Ile	Gln 315
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Gly	Asn	Asn	Thr	Arg 335	Thr	Val	Asp	Ile	Val 340	Val	Leu	Glu	Ser	Ser 345
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Cys	Thr	Arg	Asn	Thr 380	His	Gly	Ser	Gly	Ile 385	Tyr	Pro	Gly	Asn	Pro 390
Gln	Asp	Glu	Arg	Lys 395	Ala	Trp	Arg	Arg	Cys 400	Asp	Arg	Gly	Gly	Phe 405
Trp	Ala	Asp	Asp	Asp 410	Туг	Ser	Arg	Cys	Gln 415	Tyr	Ala	Asn	Asp	Val 420
Thr	Arg	Val	Leu	Tyr 425	Met	Phe	Asn	Gln	Met 430	Pro	Leu	Asn	Leu	Thr 435
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Glu	Leu	Gly	Asp	Val 485	Met	Val	Asp	Ile	Ala 490	Ser	Asn	Ile	Met	Leu 495
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Ala	Leu	Glu	a Ala	Tyr 545		Ile	. Lys	Ser	Thr 550		Phe	. Thr	Gly	Met 555
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Gln Leu Ser Phe Lys Cys Asn Val Ser Asn Thr Phe Ser Ser Leu
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<222> 1-21

<223> Signal peptide.

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Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln
35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile 50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser

<sup>&</sup>lt;211> 81

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;210> 30

<sup>&</sup>lt;211> 2128

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<210> 31

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Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp
50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys
65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu 80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95 100 105

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Ser	Gly	Leu	Ala	Leu 245	Leu	Ser	Val	Leu	Leu 250	Tyr	Ala	Thr	Ala	Leu 255
Val	Leu	Trp	Pro	Leu 260		Gln	Phe	Asp	Glu 265	Lys	Tyr	Gly	Gly	Gln 270
Pro	Arg	Arg	Ser	Arg 275		Val	Ser	Суз	Ser 280	Arg	Ser	His	Ala	Tyr 285
Tyr	Val	Cys	: Ala	Trp 290		Arg	Arg	Leu	Ala 295	Val	Ala	Ile	Leu	Thr 300
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His	Leu	va]	L Phe	Val 320		Val								
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<sup>&</sup>lt;210> 32

<sup>&</sup>lt;211> 3680

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 32
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ctggccagcc tatgcatttt taagaaatta ttctgtatta ggtgctgtgc 200 taaacattgg gcactacagt gaccaaaaca gactgaattc cccaagagcc 250 aaaqaccaqt qaqqqaqacc aacaagaaac aqgaaatqca aaagagacca 300 ttattactca ctatgactaa gggtcacaaa tggggtacgt tgatggagag 350 tgatttgtta agagactaca gagggaggac agactaccaa gaggggggcc 400 aggaaagctc ctctgacgag gtggtatttc agcccaaact ggaagaatga 450 gaaagagcta gccagccatc agaatagtcc agaagagatg gggagcacta 500 cactcactac actttggcct gagaaaatag catgggattg gaggaggctg 550 ggggaacacc acttctgccg acctgggcag gaggcattga gggcttgaga 600 aagggcaatg gcagtagcag tagaaaggac agggtaggag cagggacttt 650 gcaggtggaa tcattaggtc ttatcaacag atatgggcaa gcaaagccag 700 gggagaattg atggtaatgc tgaggtttgg agccaggcta gatgggacag 750 tggtgggtga tgcaaaggaa agaggtcagg aagcagggcc agacgtgggg 800 agaaggtgtg ggggtttggt ttccatcttg ccgagtctgc cggaatgtgg 850 atgggaagac caagaggagg agcaaggggc agaggggaag ggaatcttaa 900 agaagteetg gatgeeacae tettetteet teeteetett eecteteete 950 agaggtetea etegtggtte tteattteet geeetgeete eateteetet 1000 gggtgctggg aaagtggagg attagctgaa gttttgcttc tcggggcctg 1050 tctgaatctc cattgctttc tgggaggaca taattcacct gtcctagctt 1100 cttatcatct tacatttccc tgtagccact gggacatatg tggtgttcct 1150 tectagetee tgteteetee teatgeettt getgggtatg ggeatgttag 1200 ggggaaggtc attgctgtca gaggggcact gactttctaa tggtgttacc 1250 caaggtgaat gttggagaca cagtcgcgat gctgcccaag tcccggcgag 1300 ccctaactat ccaggagatc gctgcgctgg ccaggtcctc cctgcatggt 1350 atgrageree teccatgttt etggeractt tgteetttet eetecegttt 1400 gcacatccct ttggaactgt ttcctgtgag tacatgctgg ggtctcccct 1450 ttetteeett geteaggtga ateteageee etteteeeae eeaaaggtte 1500 acatggatcc taactactgc caccetteca ecteeetgca ectgtgetee 1550 ctggcctggt cctttaccag gcttctccac cctcccctat ctccaggtat 1600

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<211> 335

<212> PRT

<213> Homo sapiens

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His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu 50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu 65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro 80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys 95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

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Phe A	Ala	Ala	Gly	Val 140	Ala	Glu	Gln	Phe	Ala 145	Ile	Ala	Glu	Ala	Lys 150
Leu A	Arg	Ala	Trp	Ser 155	Ser	Val	Asp	Gly	Glu 160	Asp	Ser	Thr	Asp	Asp 165
Ser 7	Гуr	Asp	Glu	Asp 170	Phe	Ala	Gly	Gly	Met 175	Asp	Thr	Asp	Met	Ala 180
Gly (	Gln	Leu	Pro	Leu 185	Gly	Pro	His	Leu	Gln 190	Asp	Leu	Phe	Thr	Gly 195
His A	Arg	Phe	Ser	Arg 200	Pro	Val	Arg	Gln	Gly 205	Ser	Val	Glu	Pro	Glu 210
Ser A	Asp	Cys	Ser	Gln 215	Thr	Val	Ser	Pro	Asp 220	Thr	Leu	Суѕ	Ser	Ser 225
Leu (	Cys	Ser	Leu	Glu 230	Asp	Gly	Leu	Leu	Gly 235	Ser	Pro	Ala	Arg	Leu 240
Ala	Ser	Gln	Leu	Leu 245	Gly	Asp	Glu	Leu	Leu 250	Leu	Ala	Lys	Leu	Pro 255
Pro :	Ser	Arg	Glu	Ser 260	Ala	Phe	Arg	Ser	Leu 265	Gly	Pro	Leu	Glu	Ala 270
Gln A	Asp	Ser	Leu	Tyr 275	Asn	Ser	Pro	Leu	Thr 280	Glu	Ser	Cys	Leu	Ser 285
Pro A	Ala	Glu	Glu	Glu 290	Pro	Ala	Pro	Cys	Lys 295	Asp	Cys	Gln	Pro	Leu 300
Cys	Pro	Pro	Leu	Thr 305	Gly	Ser	Trp	Glu	Arg 310	Gln	Arg	Gln	Ala	Ser 315
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Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr 100 95

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Trp	Ser	Leu	Val	Asn 155	Asp	Thr	Val	Lys	Thr 160	Pro	Asp	Asn	Ser	Ser 165
Ile	Thr	Val	Ser	Ile 170	Leu	Ser	Ser	Glu	Pro 175	Thr	Ser	Pro	Ser	Val 180
Thr	Pro	Leu	Ile	Val 185	Glu	Pro	Ser	Gly	Trp 190	Leu	Thr	Thr	Asn	Ser 195
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Gln	Pro	Thr	Leu	Lys 215	Phe	Thr	Asn	Asn	Ser 220	Lys	Leu	Phe	Pro	Asn 225
Thr	Ser	Asp	Pro	Gln 230	Lys	Glu	Asn	Arg	Asn 235	Thr	Gly	Ile	Val	Phe 240
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Val	Gly	Tyr	Leu	Leu 260	Cys	Gly	Lys	Arg	Lys 265	Thr	Asp	Ser	Phe	Ser 270
His	Arg	Arg	Leu	Tyr 275	Asp	Asp	Arg	Asn	Glu 280	Pro	Val	Leu	Arg	Leu 285
Asp	Asn	Ala	Pro	Glu 290	Pro	Tyr	Asp	Val	Ser 295	Phe	Gly	Asn	Ser	Ser 300
Tyr	Tyr	Asn	Pro	Thr 305	Leu	Asn	Asp	Ser	Ala 310	Met	Pro	Glu	Ser	Glu 315
Glu	Asn	Ala	Arg	Asp 320	Gly	Ile	Pro	Met	Asp 325	Asp	Ile	Pro	Pro	Leu 330

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- Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu
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- Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr
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- Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys 80 85 90
- Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Glu 95 100 105
- Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp 110 115 120
- Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp 125 130 135
- Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr 140 145 150
- Ala Tyr Leu Asp Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu
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- Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe 170 175 180
- Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val 185 190 195
- Arg Glu Asp Leu Val Ala Val Glu Glu Ile Arg Asp Val Ser Asn
- Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe
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Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly
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Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe

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Ser	Glu	Val	Pro	Asp 155	Arg	Ala	Pro	Asp	Ser 160	Arg	Pro	Glu	Glu	Ala 165
Leu	Asp	Ser	Ser	Arg 170	Gln	Leu	Gln	Ala	Asp 175	Ile	Leu	Ala	Ala	Thr 180
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Gly	Ala	Arg	Met	Val 200	Glu	Gly	Arg	Gly	Ala 205	Glu	Glu	Glu	Glu	Lys 210
Gly	Ser	Gln	Glu	Gly 215	Asp	Gln	Glu	Val	Gln 220	Gly	His	Gly	Val	Pro 225
Val	Glu	Thr	Pro	Glu 230	Ala	Gln	Glu	Glu	Pro 235	Cys	Ser	Gly	Val	Leu 240
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Ser	Leu	Leu	Leu	Ala 260		Glu	Ala	Gln	Gly 265	Pro	Val	Gly	Pro	Pro 270
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Leu	Gly	Asn	Thr	Gly 110	His	Glu	Ile	Gly	Arg 115	Gln	Ala	Glu	Asp	Val 120
Ile	Arg	His	Gly	Ala 125	Asp	Ala	Val	Arg	Gly 130	Ser	Trp	Gln	Gly	Val 135
Pro	Gly	His	Ser	Gly 140	Ala	Trp	Glu	Thr	Ser 145	Gly	Gly	His	Gly	Ile 150
Phe	Gly	Ser	Gln	Gly 155		Leu	Gly	Gly	Gln 160	Gly	Gln	Gly	Asn	Pro 165
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Gly	Gly	Asn	Gly	Gly 200		Pro	Asn	Phe	Gly 205	Thr	Asn	Thr	Gln	Gly 210
Ala	Val	. Ala	Gln	Pro 215		Tyr	Gly	Ser	Val 220	Arg	Ala	Ser	Asn	Gln 225
Asn	Glu	Gly	cys	Thr 230		Pro	Pro	Pro	Ser 235	Gly	Ser	Gly	Gly	Gly 240

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Gly Ser Ser Ser Gly Ser Ser Gly Ser Ser Gly Gly Ser
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Ser Gly Gly Ser Ser Gly Gly Ser Ser Gly Asn Ser Gly Gly Ser
Arg Gly Asp Ser Gly Ser Glu Ser Ser Trp Gly Ser Ser Thr Gly
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Ser Ser Ser Gly Asn His Gly Gly Ser Gly Gly Gly Asn Gly His
Lys Pro Gly Cys Glu Lys Pro Gly Asn Glu Ala Arg Gly Ser Gly
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Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn
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Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser
                                    370
Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly Gly
                                     385
Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser
                 395
Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser
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<211> 280

<212> PRT

<213> Homo sapiens

<400> 54

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Glu Gly Pro Ser Tyr Ala Phe Glu Val Asp Thr Val Ala Pro Glu 35 40 45

His Gly Leu Asp Asn Ala Pro Val Val Asp Gln Gln Leu Leu Tyr
50 55 60

Thr Cys Cys Pro Tyr Ile Gly Glu Leu Arg Lys Leu Leu Ala Ser 65 70 75

Trp Val Ser Gly Ser Ser Gly Arg Ser Gly Gly Phe Met Arg Lys  $80 \hspace{1cm} 85 \hspace{1cm} 90$ 

Ile Thr Pro Thr Thr Thr Ser Leu Gly Ala Gln Pro Ser Gln 95 100 105

Thr Ser Gln Gly Leu Gln Ala Gln Leu Ala Gln Ala Phe Phe His
110 115 120

Asn Gln Pro Pro Ser Leu Arg Arg Thr Val Glu Phe Val Ala Glu 125 130 135

Arg Ile Gly Ser Asn Cys Val Lys His Ile Lys Ala Thr Leu Val

Ala	Asp	Leu	Val	Arg 155	Gln	Ala	Glu	Ser	Leu 160	Leu	Gln	Glu	Gln	Leu 165
Val	Thr	Gln	Gly	Glu 170	Glu	Gly	Gly	Asp	Pro 175	Ala	Gln	Leu	Leu	Glu 180
Ile	Leu	Cys	Ser	Gln 185	Leu	Cys	Pro	His	Gly 190	Ala	Gln	Ala	Leu	Ala 195
Leu	Gly	Arg	Glu	Phe 200	Cys	Gln	Arg	Lys	Ser 205	Pro	Gly	Ala	Val	Arg 210
Ala	Leu	Leu	Pro	Glu 215	Glu	Thr	Pro	Ala	Ala 220	Val	Leu	Ser	Ser	Ala 225
Glu	Asn	Ile	Ala	Val 230	Gly	Leu	Ala	Thr	Glu 235	Lys	Ala	Cys	Ala	Trp 240
Leu	Ser	Ala	Asn	Ile 245	Thr	Ala	Leu	Ile	Arg 250	Arg	Glu	Val	Lys	Ala 255
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<211> 2401

<212> DNA

<213> Homo sapiens

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<211> 299 <212> PRT <213> Homo sapiens

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Ile Gln Arg Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala

155

				170					175					180
Val	Ser	Pro	Gly	Arg 185	Met	Arg	Gln	Phe	Asp 190	Asp	Leu	Phe	Arg	Gly 195
Glu	Thr	Gly	Lys	Asp 200	Arg	Glu	Lys	Ser	His 205	Ser	Trp	Leu	Ser	Thr 210
Gly	Trp	Phe	Thr	Met 215	Val	Ile	Ala	Val	Glu 220	Leu	Cys	Asp	His	Val 225
His	Val	Tyr	Gly	Met 230	Val	Pro	Pro	Asn	Tyr 235	Cys	Ser	Gln	Arg	Pro 240
Arg	Leu	Gln	Arg	Met 245	Pro	Tyr	His	Tyr	Tyr 250	Glu	Pro	Lys	Gly	Pro 255
Asp	Glu	Cys	Val	Thr 260	Tyr	Ile	Gln	Asn	Glu 265	His	Ser	Arg	Lys	Gly 270
Asn	His	His	Arg	Phe 275	Ile	Thr	Glu	Lys	Arg 280	Val	Phe	Ser	Ser	Trp 285
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<sup>&</sup>lt;210> 57

<400> 57

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<sup>&</sup>lt;211> 4277

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<211> 1115

<212> PRT

<213> Homo sapiens

<400> 58

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Asp Leu Asn Glu Val Pro Gln Val Thr Val Gln Pro Ala Ser Thr

Val Gln Lys Pro Gly Gly Thr Val Ile Leu Gly Cys Val Val Glu
50 55 60

Pro Pro Arg Met Asn Val Thr Trp Arg Leu Asn Gly Lys Glu Leu
65 70 75

Asn Gly Ser Asp Asp Ala Leu Gly Val Leu Ile Thr His Gly Thr

Leu	Val	Ile	Thr	Ala 95	Leu	Asn .	Asn	His	Thr 100	Val	Gly	Arg	Tyr	Gln 105
Cys	Val	Ala	Arg	Met 110	Pro	Ala	Gly	A <b>l</b> a	Val 115	Ala	Ser	Val	Pro	Ala 120
Thr	Val	Thr	Leu	Ala 125	Asn	Leu	Gln	Asp	Phe 130	Lys	Leu	Asp	Val	Gln 135
His	Val	Ile	Glu	Val 140	Asp	Glu	Gly	Asn	Thr 145	Ala	Val	Ile	Ala	Cys 150
His	Leu	Pro	Glu	Ser 155	His	Pro	Lys	Ala	Gln 160	.Val	Arg	Tyr	Ser	Val 165
Lys	Gln	Glu	Trp	Leu 170	Glu	Ala	Ser	Arg	Gly 175	Asn	Tyr	Leu	Ile	Met 180
Pro	Ser	Gly	Asn	Leu 185	Gln	Ile	Val	Asn	Ala 190	Ser	Gln	Glu	Asp	Glu 195
Gly	Met	Tyr	Lys	Cys 200	Ala	Ala	Tyr	Asn	Pro 205	Val	Thr	Gln	Glu	Val 210
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Glı	n Lei	ı Va	1 110	e Pro 335		p Gl	/ Gli	n Sei	Ala 340	a Lys	s Le	u Thi	r Cys	345
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Tyr	Leu	Ile	· Val	Gly 860		Val	. Leu	Gly	Ser 865	Ile	· Val	Leu	Ile	Ile 870
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Lys	s His	: Thr	Thr	890		ı Gly	y Phe	e Pro	895	Ser	: Ala	Leu	Pro	900
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Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys
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50

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Ser	His	Gly	Gln	Thr 125	Ser	Leu	Asp	Arg	Leu 130	Arg	Asp	Gly	Leu	Val 135
Gly	Ala	Gln	Phe	Trp 140	Ser	Ala	Ser	Val	Ser 145	Cys	Gln	Ser	Gln	Asp 150
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Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val

Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Leu Tyr 95 100 105

Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp 110 115 120

Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala 125 130 135

Arg Ser Met Ala Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala 140 145 150

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Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Glu 35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly
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Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala 65 70 75

Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys
80 85 90

His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg 95 100 105

Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr 110 115 120 Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg 145 140 Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly 175 180 Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys 190 185 Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln 205 Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu 215 Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys 230 Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val

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<213> Homo sapiens

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	Gln	Ile	Leu	Asp	Gln 50	Leu	Lys	Ala	Pro	Ser 55	Leu	Gly	Gln	Phe	Thr 60
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	Thr	Thr	Ser	Trp	Asp 80	Leu	Lys	Pro	Pro	Thr 85	Ser	Gln	Ser	Ser	Val 90
	Leu	Ser	His	Leu	Asp 95	Phe	Lys	Ser	Gln	Pro 100	Glu	Pro	Ser	Pro	Val 105
	Leu	Ser	Gln	Leu	Ser 110	Gln	Arg	Gln	Gln	His 115	Gln	Ser	Gln	Ala	Val 120
	Thr	Val	Pro	Pro	Pro 125	Gly	Leu	Glu	Ser	Phe 130	Pro	Ser	Gln	Ala	Lys 135
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	Ile	Pro	Pro	Ala	Ser 185	Lys	Ile	Pro	Ala	Ser 190		Val	Glu	Met	Pro 195
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	Glu	Phe	Gly	Ser	Glu 215		Ser	Leu	Ser	Glu 220	Phe	Gly	Ser	Ala	Pro 225
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Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu 35 40 45

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Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg

Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro 125 130 135

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Glu Gly	Thr Tyr	Ser Cys	His	Leu	His	His 175	His	Tyr	Cys	Gly	Leu 180
His Glu	Arg Arg	Val Phe	His	Leu	Thr	Val 190	Ala	Glu	Pro	His	Ala 195
Glu Pro	Pro Pro	Arg Gly 200	Ser	Pro	Gly	Asn 205	Gly	Ser	Ser	His	Ser 210
Gly Ala	Pro Gly	Pro Asp 215	Pro	Thr	Leu	Ala 220	Arg	Gly	His	Asn	Val 225
Ile Asn	Val Ile	Val Pro 230	Glu	Ser	Arg	Ala 235	His	Phe	Phe	Gln	Gln 240
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Ser Glu	Asp Ile	Gln Leu 305	Asp	Tyr	Lys	Asn 310	Asn	Ile	Leu	Lys	Glu 315
Arg Ala	Glu Leu	Ala His 320	Ser	Pro	Leu	Pro 325	Ala	Lys	Tyr	Ile	Asp 330
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Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Ser Pro Ala Thr 80

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 105

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Ala Asn Phe Leu Leu Val Asn Arg Val Ala Val His Ile Arg Val 135

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Cys	Gly	Arg	Gln	Leu 365	Thr	Ala	Trp	Ile	Gln 370	Val	Pro	Gly	Pro	Asn 375
Ser	Lys	Ala	Leu	Pro 380	Gly	Phe	Val	Leu	Leu 385	Arg	Thr	Cys	Leu	Ile 390
Pro	Leu	Phe	Val	Leu 395	Cys	Asn	Tyr	Gln	Pro 400	Arg	Val	His	Leu	Lys 405
Thr	Val	Val	Phe	Gln 410	Ser	Asp	Val	Tyr	Pro 415	Ala	Leu	Leu	Ser	Ser 420

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<211> 567

<212> PRT

<213> Homo sapiens

<400> 84

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20 25 30

Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu 35 40 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln 50 55 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala 65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys 155 160 165

Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu
170 175 180

Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys 185 190 195

Ala	Leu	Gly	Cys	Arg 200	Lys	Ala	Met	Lys	Lys 205	Phe	Glu	Arg	His	Thr 210
Leu	Leu	Glu	Tyr	Leu 215	Leu	Gly	Glu	Gly	Asn 220	Leu	Ser	Arg	Pro	Ala 225
Val	Gln	Leu	Leu	Gly 230	Asp	Val	Met	Ser	Glu 235	Asp	Gly	Phe	Phe	Tyr 240
Leu	Ser	Phe	Ala	Glu 245	Ala	Leu	Arg	Ala	His 250	Ser	Cys	Leu	Ser	Asp 255
Arg	Leu	Gln	Tyr	Ser 260	Arg	Ile	Val	Gly	Gly 265	Trp	Asp	Leu	Leu	Pro 270
Arg	Ala	Leu	Leu	Ser 275	Ser	Leu	Ser	Gly	Leu 280	Val	Leu	Leu	Asn	Ala 285
Pro	Val	Val	Ala	Met 290	Thr	Gln	Gly	Pro	His 295	Asp	Val	His	Val	Gln 300
Ile	Glu	Thr	Ser	Pro 305	Pro	Ala	Arg	Asn	Leu 310	Lys	Val	Leu	Lys	Ala 315
Asp	Val	Val	Leu	Leu 320	Thr	Ala	Ser	Gly	Pro 325	Ala	Val	Lys	Arg	Ile 330
Thr	Phe	Ser	Pro	Pro 335	Leu	Pro	Arg	His	Met 340	Gln	Glu	Ala	Leu	Arg 345
Arg	Leu	His	Tyr	Val 350	Pro	Ala	Thr	Lys	Val 355	Phe	Leu	Ser	Phe	Arg 360
Arg	Pro	Phe	Trp	Arg 365		Glu	His	Ile	Glu 370	Gly	Gly	His	Ser	Asn 375
Thr	Asp	Arg	Pro	Ser 380		Met	Ile	Phe	Tyr 385	Pro	Pro	Pro	Arg	Glu 390
Gly	Ala	Leu	Leu	Leu 395		Ser	Tyr	Thr	Trp 400	Ser	Asp	Ala	Ala	Ala 405
Ala	Phe	Ala	Gly	Leu 410		Arg	Glu	Glu	Ala 415	Leu	Arg	Leu	Ala	Leu 420
Asp	Asp	Val	Ala	Ala 425		His	Gly	Pro	Val 430	Val	Arg	Gln	Leu	Trp 435
Asp	Gly	Thr	Gly	Val 440		Lys	Arg	Trp	Ala 445		Asp	Gln	His	Ser 450
Gln	Gly	Gly	Phe	Val 455		Gln	Pro	Pro	Ala 460		Trp	Glr	Thr	Glu 465
Lys	a Asp	Asp	Trp	Thr 470		. Pro	туг	Gly	Arg 475	Ile	Tyr	Phe	e Ala	Gly 480

Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys

Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro 505

Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu 520

Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp 540

Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu

Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His 560

<210> 85

<211> 3316

<212> DNA

<213> Homo sapiens

<400> 85

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<210> 86

<211> 739

<212> PRT

<213> Homo sapiens

<400> 86

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				35					40					45
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Phe	Asn	Phe	Leu	Phe 65	Ser	Pro	Leu	Pro	Thr 70	Pro	Ala	Leu	Ile	Cys 75
Ile	Leu	Thr	Phe	Gly 80	Ala	Ala	Ile	Phe	Leu 85	Trp	Leu	Ile	Thr	Arg 90
Pro	Gln	Pro	Val	Leu 95	Pro	Leu	Leu	Asp	Leu 100	Asn	Asn	Gln	Ser	Val 105
Gly	Ile	Glu	Gly	Gly 110	Ala	Arg	Lys	Gly	Val 115	Ser	Gln	Lys	Asn	Asn 120
Asp	Leu	Thr	Ser	Cys 125	Cys	Phe	Ser	Asp	Ala 130	Lys	Thr	Met	Tyr	Glu 135
Val	Phe	Gln	Arg	Gly 140	Leu	Ala	Val	Ser	Asp 145	Asn	Gly	Pro	Cys	Leu 150
Gly	Tyr	Arg	Lys	Pro 155	Asn	Gln	Pro	Tyr	Arg 160	Trp	Leu	Ser	Tyr	Lys 165
Gln	Val	Ser	Asp	Arg 170	Ala	Glu	Tyr	Leu	Gly 175	Ser	Cys	Leu	Leu	His 180
Lys	Gly	Туг	Lys	Ser 185	Ser	Pro	Asp	Gln	Phe 190	Val	Gly	Ile	Phe	Ala 195
Gln	Asn	Arg	Pro	Glu 200	Trp	Ile	Ile	Ser	Glu 205	Leu	Ala	Cys	Tyr	Thr 210
Tyr	Ser	Met	Val	Ala 215	Val	Pro	Leu	Tyr	Asp 220	Thr	Leu	Gly	Pro	Glu 225
Ala	Ile	Val	His	Ile 230	Val	Asn	Lys	Ala	Asp 235	Ile	Ala	Met	Val	Ile 240
Cys	Asp	Thr	Pro	Gln 245	Lys	Ala	Leu	Val	Leu 250	Ile	Gly	Asn	Val	Glu 255
Lys	Gly	Phe	Thr	Pro 260		Leu	Lys	Val	Ile 265	Ile	Leu	Met	Asp	Pro 270
Phe	Asp	Asp	Asp	Leu 275		Gln	Arg	Gly	Glu 280		Ser	Gly	Ile	Glu 285
Ile	e Leu	Ser	Leu	Tyr 290		Ala	Glu	. Asn	Leu 295		Lys	Glu	His	Phe 300
Arg	J Lys	Pro	o Val	Pro 305		Ser	Pro	Glu	Asp 310		. Ser	Val	Ile	Cys 315
Dh -	. ሞሎ~	- 60.	- Clu	Thr	Thr	· Glu	, Acr	Pro	Lvs	Glv	Ala	Met	Ile	Thr

				320					325					330
His	Gln	Asn	Ile	Val 335	Ser	Asn	Ala	Ala	Ala 340	Phe	Leu	Lys	Суѕ	Val 345
Glu	His	Ala	Tyr	Glu 350	Pro	Thr	Pro	Asp	Asp 355	Val	Ala	Ile	Ser	Tyr 360
Leu	Pro	Leu	Ala	His 365	Met	Phe	Glu	Arg	Ile 370	Val	Gln	Ala	Val	Val 375
Tyr	Ser	Cys	Gly	Ala 380	Arg	Val	Gly	Phe	Phe 385	Gln	Gly	Asp	Ile	Arg 390
Leu	Leu	Ala	Asp	Asp 395	Met	Lys	Thr	Leu	Lys 400	Pro	Thr	Leu	Phe	Pro 405
Ala	Val	Pro	Arg	Leu 410	Leu	Asn ·	Arg	Ile	Tyr 415	Asp	Lys	Val	Gln	Asn 420
Glu	Ala	Lys	Thr	Pro 425	Leu	Lys	Lys	Phe	Leu 430	Leu	Lys	Leu	Ala	Val 435
Ser	Ser	Lys	Phe	Lys 440	Glu	Leu	Gln	Lys	Gly 445	Ile	Ile	Arg	His	Asp 450
Ser	Phe	Trp	Asp	Lys 455	Leu	Ile	Phe	Ala	Lys 460	Ile	Gln	Asp	Ser	Leu 465
Gly	Gly	Arg	Val	Arg 470	Val	Ile	Val	Thr	Gly 475	Ala	Ala	Pro	Met	Ser 480
Thr	Ser	Val	Met	Thr 485	Phe	Phe	Arg	Ala	Ala 490	Met	Gly	Cys	Gln	Val 495
Tyr	Glu	Ala	Tyr	Gly 500	Gln	Thr	Glu	Cys	Thr 505	Gly	Gly	Cys	Thr	Phe 510
Thr	Leu	Pro	Gly	Asp 515	Trp	Thr	Ser	Gly	His 520	Val	Gly	Val	Pro	Leu 525
Ala	Cys	Asn	Tyr	Val 530	Lys	Leu	Glu	Asp	Val 535	Ala	Asp	Met	Asn	Tyr 540
Phe	Thr	Val	Asn	Asn 545	Glu	Gly	Glu	Val	Cys 550	Ile	Lys	Gly	Thr	Asn 555
Val	Phe	Lys	Gly	Tyr 560	Leu	Lys	Asp	Pro	Glu 565	Lys	Thr	Gln	Glu	Ala 570
Leu	Asp	Ser	Asp	Gly 575	Trp	Leu	His	Thr	Gly 580	Asp	Ile	Gly	Arg	Trp 585
Leu	Pro	Asn	Gly	Thr 590	Leu	Lys	Ile	Ile	Asp 595	Arg	Lys	Lys	Asn	11e
Phe	Lys	Leu	Ala	Gln	Gly	Glu	Tyr	Ile	Ala	Pro	Glu	Lys	Ile	Glu

	605	610	615
Asn Ile Tyr Asn	Arg Ser Gln	Pro Val Leu Gln	Ile Phe Val His
	620	625	630
Gly Glu Ser Leu	Arg Ser Ser	Leu Val Gly Val	Val Val Pro Asp
	635	640	645
Thr Asp Val Leu	Pro Ser Phe	Ala Ala Lys Leu	Gly Val Lys Gly
	650	655	660
Ser Phe Glu Glu	Leu Cys Gln	Asn Gln Val Val	Arg Glu Ala Ile
	665	670	675
Leu Glu Asp Leu	Gln Lys Ile	Gly Lys Glu Ser	Gly Leu Lys Thr
	680	685	690
Phe Glu Gln Val	Lys Ala Ile	Phe Leu His Pro	Glu Pro Phe Ser
	695	700	705
Ile Glu Asn Gly	Leu Leu Thr	Pro Thr Leu Lys	Ala Lys Arg Gly
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Glu Leu Ser Lys	Tyr Phe Arg	Thr Gln Ile Asp	Ser Leu Tyr Glu
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<210> 87

<211> 2725

<212> DNA

<213> Homo sapiens

His Ile Gln Asp

<400> 87

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ccaggacatt ggtgacccgc caatccggta tggacgactg gaagcccagc 150
cccctcatca agccctttgg ggctcggaag aagcggagct ggtaccttac 200
ctggaagtat aaactgacaa accagcgggc cctgcggaga ttctgtcaga 250
caggggccgt gcttttcctg ctggtgactg tcattgtcaa tatcaagttg 300
atcctggaca ctcggcgagc catcagtgaa gccaatgaag acccagagcc 350
agagcaagac tatgatgag ccctaggccg cctggagccc ccacggcgca 400
gaggcagtgg tccccggcgg gtcctggacg tagaggtgta ttcaagtcgc 450
agcaaagtat atgtggcagt ggatggcacc acggtgctg aggatgaggc 500
ccgggagcag ggccggggca tccatgtcat tgtcctcaac caggccaccg 550

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<210> 88
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## <400> 88

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Asn Gln Arg Ala Leu Arg Arg Phe Cys Gln Thr Gly Ala Val Leu
35 40 45

Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp 50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu
65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg 80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser 95 100 105

<sup>&</sup>lt;211> 660

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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Glu	Asp	Glu	Ala	Arg 125	Glu	Gln	Gly	Arg	Gly 130	Ile	His	Val	Ile	Val 135
Leu	Asn	Gln	Ala	Thr 140	Gly	His	Val	Met	Ala 145	Lys	Arg	Val	Phe	Asp 150
Thr	Tyr	Ser	Pro	His 155	Glu	Asp	Glu	Ala	Met 160	Val	Leu	Phe	Leu	Asn 165
Met	Val	Ala	Pro	Gly 170	Arg	Val	Leu	Ile	Cys 175	Thr	Val	Lys	Asp	Glu 180
Gly	Ser	Phe	His	Leu 185	Lys	Asp	Thr	Ala	Lys 190	Ala	Leu	Leu	Arg	Ser 195
Leu	Gly	Ser	Gln	Ala 200	Gly	Pro	Ala	Leu	Gly 205	Trp	Arg	Asp	Thr	Trp 210
Ala	Phe	Val	Gly	Arg 215	Lys	Gly	Gly	Pro	Val 220	Phe	Gly	Glu	Lys	His 225
Ser	Lys	Ser	Pro	Ala 230	Leu	Ser	Ser	Trp	Gly 235	Asp	Pro	Val	Leu	Leu 240
Lys	Thr	Asp	Val	Pro 245	Leu	Ser	Ser	Ala	Glu 250	Glu	Ala	Glu	Cys	His 255
Trp	Ala	Asp	Thr	Glu 260	Leu	Asn	Arg	Arg	Arg 265	Arg	Arg	Phe	Cys	Ser 270
Lys	Val	Glu	Gly	Tyr 275	Gly	Ser	Val	Cys	Ser 280	Cys	Ĺys	Asp	Pro	Thr 285
Pro	Ile	Glu	Phe	Ser 290	Pro	Asp	Pro	Leu	Pro 295	Asp	Asn	Lys	Val	Leu 300
Asn	Val	Pro	Val	Ala 305	Val	Ile	Ala	Gly	Asn 310	Arg	Pro	Asn	Tyr	Leu 315
Tyr	Arg	Met	Leu	Arg 320	Ser	Leu	Leu	Ser	Ala 325	Gln	Gly	Val	Ser	Pro 330
Gln	Met	Ile	Thr	Val 335	Phe	Ile	Asp	Gly	Tyr 340	Tyr	Glu	Glu	Pro	Met 345
Asp	Val	Val	Ala	Leu 350		Gly	Leu	Arg	Gly 355	Ile	Gln	His	Thr	Pro 360
Ile	Ser	Ile	Lys	Asn 365	Ala	Arg	Val	Ser	Gln 370	His	Tyr	Lys	Ala	Ser 375
Leu	Thr	Ala	Thr	Phe 380		Leu	Phe	Pro	Glu 385	Ala	Lys	Phe	Ala	Val 390

Val	Leu	Glu	Glu	Asp 395	Leu	Asp	Ile	Ala	Val 400	Asp	Phe	Phe	Ser	Phe 405
Leu	Ser	Gln	Ser	11e 410	His	Leu	Leu	Glu	Glu 415	Asp	Asp	Ser	Leu	Tyr 420
Cys	Ile	Ser	Ala	Trp 425	Asn	Asp	Gln	Gly	Tyr 430	Glu	His	Thr	Ala	Glu 435
Asp	Pro	Ala	Leu	Leu 440	Tyr	Arg	Val	Glu	Thr 445	Met	Pro	Gly	Leu	Gly 450
Trp	-Val	Leu	Arg	Arg 455	Ser	Leu	Tyr	Lys	Glu 460	Glu	Leu	Glu	Pro	Lys 465
Trp	Pro	Thr	Pro	Glu 470	Lys	Leu	Trp	Asp	Trp 475	Asp	Met	Trp	Met	Arg 480
Met	Pro	Glu	Gln	Arg 485	Arg	Gly	Arg	Glu	Cys 490	Ile	Ile	Pro	Asp	Val 495
	_		Tyr	500					505					510
Tyr	Phe	His	Glu	Ala 515	Tyr	Phe	Lys	Lys	His 520	Lys	Phe	Asn	Thr	Val 525
			Gln	530					535					540
_			Glu	545					550					555
-			Lys	560					565					570
			Thr	575					580					585
-			Thr	590					595					600
			Val	605					610					615
			Asn	620					625					630
			Lys	635					640					645
Pro	Pro	Pro	Lys	Glu 650	Glu	Gly	Ala	Pro	Gly 655	Ala	Pro	Glu	Gln	Thr 660

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<210> 90
<211> 22
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<211> 47
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<223> Synthetic oligonucleotide probe
<400> 93
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<212> DNA
<213> Homo sapiens
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- <210> 95
- <211> 307
- <212> PRT
- <213> Homo sapiens

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- Ser Glu Glu Arg Leu Lys Leu Val Thr Val Leu Gly Ala Gly Leu 35 40 45
- Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His
  50 55 60
- Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser 65 70 75
- Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90
- Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His 95 100 105
- Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120
- Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135
- Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu 140 145 150
- Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165
- Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val 170 175 180
- Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195
- Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His
  200 205 210

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Leu Leu Val Phe Ala Leu Ala Ala Pro Val Met Ser Met Val Thr
                                     220
                 215
Tyr Leu Gly Leu Ser Lys Ser Ser Lys Glu Ala Leu Ser Glu Val
                                     235
                 230
Asn Ala Thr Gly Val Ala Met Leu Phe Ser Ala Gly Thr Phe Leu
                                     250
                 245
Tyr Val Ala Thr Val His Val Leu Pro Glu Val Gly Gly Ile Gly
                                     265
His Ser His Lys Pro Asp Ala Thr Gly Gly Arg Gly Leu Ser Arg
Leu Glu Val Ala Ala Leu Val Leu Gly Cys Leu Ile Pro Leu Ile
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 Leu Ser Val Gly His Gln His
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<213> Artificial Sequence
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<212> DNA <213> Homo sapiens

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<2	1	Λ	`	1	00	١
< ∠	1	U	~	Т	U	,

<213> Homo sapiens

## <400> 100

Met N	Met	Glv	Leu	Gly	Asn	Gly	Arg	Arg	Ser	Met	Lys	Ser	Pro	Pro
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Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser

<sup>&</sup>lt;211> 401

<sup>&</sup>lt;212> PRT

				230					235					240
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Pro	Gln	Glu	Pro	Gly 275	Arg	Glu	Gln	Val	Val 280	Glu	Asp	Arg	Pro	Val 285
Gly	Gly	Arg	Gly	Phe 290	Gly	Gly	Ala	Gly	Glu 295	Leu	Gly	Gln	Thr	Pro 300
Gln	Val	Gln	Ala	Ala 305	Leu	Ser	Val	Ser	Gln 310	Glu	Asn	Pro	Glu	Met 315
Glu	Gly	Pro	Glu	Arg 320	Asp	Gln	Leu	Val	11e 325	Pro	Asp	Gly	Gln	Glu 330
Glu	Glu	Gln	Glu	Ala 335	Ala	Gly	Glu	Gly	Arg 340	Asn	Gln	Gln	Lys	Leu 345
Arg	Gly	Glu	Asp	Asp 350	Tyr	Asn	Met	Asp	Glu 355	Asn	Glu	Ala	Glu	Ser 360
Glu	Thr	Asp	Lys	Gln 365	Ala	Ala	Leu	Ala	Gly 370	Asn	Asp	Arg	Asn	Ile 375
Asp	Val	Phe	Asn	Val 380	Glu	Asp	Gln	Lys	Arg 385	Asp	Thr	Ile	Asn	Leu 390
Leu	Asp	Gln	Arg	Glu 395		Arg	Asn	His	Thr 400	Leu				
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<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 101
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tgeeatgggg gageeaaggg aaaeetgggg eetgetggat ggetteeega 200

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ceageeeeag eatteaeaeg tgeetagaga geeteetgte teeetaeeet 300

tcetgggeaa aetaagetee ttgeagaga teetggagat teageeeeae 350

catgeeegge tetaeegate teaggttgae eetectaeea eeaeeatgea 400

gegeeteaag geeeteacea etggeteaet geetaeettt attgatgetg 450 gtagtaactt cgccagccac gccatagtgg aagacaatct cattaagcag 500 ctcaccagtg caggaaggcg tgtagtcttc atgggagatg atacctggaa 550 agacetttte cetggtgett tetecaaage tttettette ceateettea 600 atgtcagaga cctagacaca gtggacaatg gcatcctgga acacctctac 650 cccaccatgg acagtggtga atgggacgtg ctgattgctc acttcctggg 700 tgtggaccac tgtggccaca agcatggccc tcaccaccct gaaatggcca 750 agaaacttag ccagatggac caggtgatcc agggacttgt ggagcgtctg 800 qaqaatgaca cactgctggt agtggctggg gaccatggga tgaccacaaa 850 tggagaccat ggaggggaca gtgagctgga ggtctcagct gctctcttc 900 tgtatagccc cacagcagtc ttccccagca ccccaccaga ggagccagag 950 gtgattcctc aagttagcct tgtgcccacg ctggccctgc tgctgggcct 1000 gcccatccca tttgggaata tcggggaagt gatggctgag ctattctcag 1050 ggggtgagga ctcccagccc cactcctctg ctttagccca agcctcagct 1100 ctccatctca atgctcagca ggtgtcccga tttcttcata cctactcagc 1150 tgctactcag gaccttcaag ctaaggagct tcatcagctg cagaacctct 1200 tetecaagge etetgetgae taccagtgge ttetecagag eeccaagggg 1250 gctgaggega cactgccgac tgtgattgct gagctgcagc agttcctgcg 1300 gggagetegg gecatgtgea tegagtettg ggetegttte tetetggtee 1350 gcatggcggg gggtactgct ctcttggctg cttcctgctt tatctgcctg 1400 ctggcatctc agtgggcaat atccccaggc tttccattct gccctctact 1450 cctgacacct gtggcctggg gcctggttgg ggccatagcg tatgctggac 1500 tectgggaac tattgagetg aagetagate tagtgettet aggggetgtg 1550 gctgcagtga gctcattcct cccttttctg tggaaagcct gggctggctg 1600 ggggtccaag aggcccctgg caaccctgtt tcccatccct gggcccgtcc 1650 tgttactcct gctgtttcgc ttggctgtgt tcttctctga tagttttgtt 1700 qtagctgagg ccagggccac ccccttcctt ttgggctcat tcatcctgct 1750 cctggttgtc cagcttcact gggagggcca gctgcttcca cctaagctac 1800 tcacaatgcc ccgccttggc acttcagcca caacaaaccc cccacggcac 1850

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<211> 1089

<212> PRT

<213> Homo sapiens

## <400> 102

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Thr	Arg	Leu	Glu	Leu 35	Thr	Asn	His	Ser	Ser 40	Cys	Gln	Glu	Pro	Pro 45
Gly	Pro	Gly	Ser	Leu 50	Pro	Trp	Gly	Ser	Gln 55	Gly	Lys	Pro	Gly	Ala 60
Суѕ	Trp	Met	Ala	Ser 65	Arg	Phe	Ser	Arg	Val 70	Val	Leu	Val	Leu	Ile 75
Asp	Ala	Leu	Arg	Phe 80	Asp	Phe	Ala	Gln	Pro 85	Gln	His	Ser	His	Val 90
Pro	Arg	Glu	Pro	Pro 95	Val	Ser	Leu	Pro	Phe 100	Leu	Gly	Lys	Leu	Ser 105
Ser	Leu	Gln	Arg	Ile 110	Leu	Glu	Ile	Gln	Pro 115	His	His	Ala	Arg	Leu 120
Tyr	Arg	Ser	Gln	Val 125	Asp	Pro	Pro	Thr	Thr 130	Thr	Met	Gln	Arg	Leu 135
Lys	Ala	Leu	Thr	Thr 140	Gly	Ser	Leu	Pro	Thr 145	Phe	Ile	Asp	Ala	Gly 150

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys

160

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Thr	Trp	Lys	Asp	Leu 185	Phe	Pro	Gly	Ala	Phe 190	Ser	Lys	Ala	Phe	Phe 195
Phe	Pro	Ser	Phe	Asn 200	Val	Arg	Asp	Leu	Asp 205	Thr	Val	Asp	Asn	Gly 210
Ile	Leu	Glu	His	Leu 215	Tyr	Pro	Thr	Met	Asp 220	Ser	Gly	Glu	Trp	Asp 225
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His	Gly	Pro	His	His 245	Pro	Glu	Met	Ala	Lys 250	Lys	Leu	Ser	Gln	Met 255
Asp	Gln	Val	Ile	Gln 260	Gly	Leu	Val	Glu	Arg 265	Leu	Glu	Asn	Asp	Thr 270
Leu	Leu	Val	Val	Ala 275	Gly	Asp	His	Gly	Met 280	Thr	Thr	Asn	Gly	Asp 285
His	Gly	Gly	Asp	Ser 290	Glu	Leu	Glu	Val	Ser 295	Ala	Ala	Leu	Phe	Leu 300
Tyr	Ser	Pro	Thr	Ala 305	Val	Phe	Pro	Ser	Thr 310	Pro	Pro	Glu	Glu	Pro 315
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Arg	Phe	Leu	His	Thr 380	Tyr	Ser	Ala	Ala	Thr 385	Gln	Asp	Leu	Gln	Ala 390
Lys	Glu	Leu	His	Gln 395	Leu	Gln	Asn	Leu	Phe 400	Ser	Lys	Ala	Ser	Ala 405
Asp	Tyr	Gln	Trp	Leu 410	Leu	Gln	Ser	Pro	Lys 415	Gly	Ala	Glu	Ala	Thr 420
Leu	Pro	Thr	Val	Ile 425	Ala	Glu	Leu	Gln	Gln 430	Phe	Leu	Arg	Gly	Ala 435
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Pro	Leu	Leu	Leu	Thr 485	Pro	Val	Ala	Trp	Gly 490	Leu	Val	Gly	Ala	Ile 495
Ala	Tyr	Ala	Gly	Leu 500	Leu	Gly	Thr	Ile	Glu 505	Leu	Lys	Leu	Asp	Leu 510
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Arg	Leu	Ala	Val	Phe 560	Phe	Ser	Asp	Ser	Phe 565	Val	Val	Ala	Glu	Ala 570
Arg	Ala	Thr	Pro	Phe 575	Leu	Leu	Gly	Ser	Phe 580	Ile	Leu	Leu	Leu	Val 585
Val	Gln	Leu	His	Trp 590	Glu	Gly	Gln	Leu	Leu 595	Pro	Pro	Lys	Leu	Leu 600
Thr	Met	Pro	Arg	Leu 605	Gly	Thr	Ser	Ala	Thr 610	Thr	Asn	Pro	Pro	Arg 615
His	Asn	Gly	Ala	Tyr 620	Ala	Leu	Arg	Leu	Gly 625	Ile	Gly	Leu	Leu	Leu 630
Cys	Thr	Arg	Leu	Ala 635	Gly	Leu	Phe	His	Arg 640	Cys	Pro	Glu	Glu	Thr 645
Pro	Val	Cys	His	Ser 650		Pro	Trp	Leu	Ser 655	Pro	Leu	Ala	Ser	Met 660
Val	Gly	Gly	Arg	Ala 665		Asn	Leu	Trp	Tyr 670	Gly	Ala	Cys	Val	Ala 675
Ala	Leu	ı Val	Ala	Leu 680		Ala	Ala	Val	Arg 685		Trp	Leu	Arg	Arg 690
Tyr	Gly	Asn	Leu	Lys 695		Pro	Glu	Pro	Pro 700		Leu	Phe	Val	Arg 705
Trp	Gly	, Lev	Pro	Leu 710		Ala	. Leu	Gly	Thr 715		Ala	Туг	Trp	Ala 720
Leu	ı Ala	a Sei	Gly	7 Ala		Glu	ı Ala	Pro	Pro 730		Leu	ı Arç	, Val	Leu 735

Val	Ser	Gly	Ala	Ser 740	Met	Val	Leu	Pro	Arg 745	Ala	Val	Ala	Gly	Leu 750
Ala	Ala	Ser	Gly	Leu 755	Ala	Leu	Leu	Leu	Trp 760	Lys	Pro	Val	Thr	Val 765
Leu	Val	Lys	Ala	Gly 770	Ala	Gly	Ala	Pro	Arg 775	Thr	Arg	Thr	Val	Leu 780
Thr	Pro	Phe	Ser	Gly 785	Pro	Pro	Thr	Ser	Gln 790	Ala	Asp	Leu	Asp	Tyr 795
Val	Val	Pro	Gln	Ile 800	Tyr	Arg	His	Met	Gln 805	Glu	Glu	Phe	Arg	Gly 810
Arg	Leu	Glu	Arg	Thr 815	Lys	Ser	Gln	Gly	Pro 820	Leu	Thr	Val	Ala	Ala 825
Tyr	Gln	Leu	Gly	Ser 830	Val	Tyr	Ser	Ala	Ala 835	Met	Val	Thr	Ala	Leu 840
Thr	Leu	Leu	Ala	Phe 845	Pro	Leu	Leu	Leu	Leu 850	His	Ala	Glu	Arg	Ile 855
Ser	Leu	Val	Phe	Leu 860	Leu	Leu	Phe	Leu	Gln 865	Ser	Phe	Leu	Leu	Leu 870
His	Leu	Leu	Ala	Ala 875	Gly	Ile	Pro	Val	Thr 880	Thr	Pro	Gly	Pro	Phe 885
Thr	Val	Pro	Trp	Gln 890	Ala	Val	Ser	Ala	Trp 895	Ala	Leu	Met	Ala	Thr 900
Gln	Thr	Phe	Tyr	Ser 905	Thr	Gly	His	Gln	Pro 910	Val	Phe	Pro	Ala	Ile 915
His	Trp	His	Ala	Ala 920	Phe	Val	Gly	Phe	Pro 925	Glu	Gly	His	Gly	Ser 930
Cys	Thr	Trp	Leu	Pro 935	Ala	Leu	Leu	Val	Gly 940	Ala	Asn	Thr	Phe	Ala 945
Ser	His	Leu	Leu	Phe 950		Val	Gly	Cys	Pro 955	Leu	Leu	Leu	Leu	Trp 960
Pro	Phe	Leu	Cys	Glu 965		Gln	Gly	Leu	Arg 970		Arg	Gln	Gln	Pro 975
Pro	Gly	Asn	Glu	Ala 980		Ala	Arg	Val	Arg 985		Glu	Glu	Glu	Glu 990
Glu	Pro	Leu	Met	Glu 995		Arg	Leu	Arg	Asp 1000		Pro	Gln	His	Phe 1005
Tyr	Ala	Ala	Leu	Leu 1010		Leu	Gly	Leu	Lys 1015	Tyr	Leu	Phe	lle	Leu 1020

Gly Ile Gln Ile Leu Ala Cys Ala Leu Ala Ala Ser Ile Leu Arg 1025 1030

Arg His Leu Met Val Trp Lys Val Phe Ala Pro Lys Phe Ile Phe 1040

Glu Ala Val Gly Phe Ile Val Ser Ser Val Gly Leu Leu Gly 1055

Ile Ala Leu Val Met Arg Val Asp Gly Ala Val Ser Ser Trp Phe 1070

Arg Gln Leu Phe Leu Ala Gln Gln Arg 1085

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<211> 1743

<212> DNA

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<400> 103

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<210> 104

<211> 442

<212> PRT

<213> Homo sapiens

<400> 104

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Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr 35 40 45

Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser 50 55 60

Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu
65 70 75

Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His

Thr	Leu	Val	Leu	Thr 95	Trp	Leu	Glu	Pro	Asn 100	Thr	Leu	Tyr	Суз	Val 105
His	Val	Glu	Ser	Phe 110	Val	Pro	Gly	Pro	Pro 115	Arg	Arg	Ala	Gln	Pro 120
Ser	Glu	Lys	Gln	Cys 125	Ala	Arg	Thr	Leu	Lys 130	Asp	Gln	Ser	Ser	Glu 135
Phe	Lys	Ala	Lys	Ile 140	Ile	Phe	Trp	Tyr	Val 145	Leu	Pro	Ile	Ser	Ile 150
Thr	Val	Phe	Leu	Phe 155	Ser	Val	Met	Gly	Tyr 160	Ser	Ile	Tyr	Arg	Tyr 165
Ile	His	Val	Gly	Lys 170	Glu	Lys	His	Pro	Ala 175	Asn	Leu	Ile	Leu	Ile 180
Tyr	Gly	Asn	Glu	Phe 185	Asp	Lys	Arg	Phe	Phe 190	Val	Pro	Ala	Glu	Lys 195
Ile	Val	Ile	Asn	Phe 200	Ile	Thr	Leu	Asn	Ile 205	Ser	Asp	Asp	Ser	Lys 210
Ile	Ser	His	Gln	Asp 215	Met	Ser	Leu	Leu	Gly 220	Lys	Ser	Ser	Asp	Val 225
Ser	Ser	Leu	Asn	Asp 230	Pro	Gln	Pro	Ser	Gly 235	Asn	Leu	Arg	Pro	Pro 240
Gln	Glu	Glu	Glu	Glu 245	Val	Lys	His	Leu	Gly 250	Tyr	Ala	Ser	His	Leu 255
Met	Glu	Ile	Phe	Cys 260	Asp	Ser	Glu	Glu	Asn 265	Thr	Glu	Gly	Thr	Ser 270
Leu	Thr	Gln	Gln	Glu 275	Ser	Leu	Ser	Arg	Thr 280	Ile	Pro	Pro	Asp	Lys 285
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Ala	Gly	Pro	Glu	Glu 305	Gln	Glu	Leu	Ser	Leu 310	Gln	Glu	Glu	Val	Ser 315
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Leu	Asp	Pro	Leu	Ala 350		Glu	His	Thr	Asp 355	Ser	Glu	Glu	Gly	Pro 360
Glu	Glu	Glu	Pro	Ser 365		Thr	Leu	Val	Asp 370		Asp	Pro	Gln	Thr 375

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                                     400
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Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro
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<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val 1 5 10 15

Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp
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Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg 35 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly 50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala 80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile 95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly
125 130 130

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro 140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 . 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 195

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg

205 210 200 Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 220 Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 250 Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly 265 Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala 275 <210> 112 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 112 gacgtctgca acagctcctg gaag 24 <210> 113 <211> 23 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 113 cgagaaggaa acgaggccgt gag 23 <210> 114 <211> 44 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 114 tgacacttac catgetetge accegeagtg gggacageca caga 44 <210> 115 <211> 1808 <212> DNA <213> Homo sapiens <400> 115 gagetaccea ggeggetggt gtgeageaag eteegegeeg acteeggaeg 50

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<210> 116

<211> 331

<212> PRT

<213> Homo sapiens

<400> 116

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Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys 20 25 30

Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly
35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys 65 70 75

Glu Ala Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr 125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly
170 175 180

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His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn
                185
Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe
Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val
Asn Ala Leu His Pro Gly Val Ala Arg Thr Glu Leu Gly Arg His
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Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro
                245
Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro
                                    265
Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly
                275
Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala
Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Ser Ala Arg
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Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Gln Pro Leu Pro
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<210> 117 <211> 2249 <212> DNA <213> Homo sapiens

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Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg 35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala
50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe 80 85 90

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125 130 135

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn 140 145 150

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser

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<sup>&</sup>lt;211> 544

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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Phe	Arg	Gly	Ser	Tyr 215	Gly	Glu	Trp	Lys	Thr 220	Glu	Asp	Glu	Ala	Ser 225
Leu	Glu	Asp	Ala	Leu 230	Asp	His	Leu	Ala	Phe 235	Ala	Tyr	Phe	Arg	Ala 240
Gly	Asn·	Val	Ser	Cys 245	Ala	Leu	Ser	Leu	Ser 250	Arg	Glu	Phe	Leu	Leu 255
Tyr	Ser	Pro	Asp	Asn 260	Lys	Arg	Met	Ala	Arg 265	Asn	Val	Leu	Lys	Tyr 270
Glu	Arg	Leu	Leu	Ala 275	Glu	Ser	Pro	Asn	His 280	Val	Val	Ala	Glu	Ala 285
Val	Ile	Gln	Arg	Pro 290	Asn	Ile	Pro	His	Leu 295	Gln	Thr	Arg	Asp	Thr 300
Tyr	Glu	Gly	Leu	Cys 305	Gln	Thr	Leu	Gly	Ser 310	Gln	Pro	Thr	Leu	Tyr 315
Gln	Ile	Pro	Ser	Leu 320	Tyr	Cys	Ser	Tyr	Glu 325	Thr	Asn	Ser	Asn	Ala 330
Туr	Leu	Leu	Leu	Gln 335	Pro	Ile	Arg	Lys	Glu 340	Val	Ile	His	Leu	Glu 345
Pro	Tyr	Ile	Ala	Leu 350	Tyr	His	Asp	Phe	Val 355	Ser	Asp	Ser	Glu	Ala 360
Gln	Lys	Ile	Arg	Glu 365	Leu	Ala	Glu	Pro	Trp 370	Leu	Gln	Arg	Ser	Val 375
Val	Ala	Ser	Gly	Glu 380	Lys	Gln	Leu	Gln	Val 385	Glu	Tyr	Arg	Ile	Ser 390
Lys	Ser	Ala	Trp	Leu 395		Asp	Thr	Val	Asp 400	Pro	Lys	Leu	Val	Thr 405
Leu	Asn	His	Arg	Ile 410	Ala	Ala	Leu	Thr	Gly 415	Leu	Asp	Val	Arg	Pro 420
Pro	Tyr	Ala	Glu	Tyr 425		Gln	Val	Val	Asn 430		Gly	Ile	Gly	Gly 435
His	Tyr	Glu	Pro	His 440		Asp	His	Ala	Thr 445		Pro	Ser	Ser	Pro 450
Leu	Tyr	Arg	Met	Lys 455		Gly	Asn	Arg	Val 460		Thr	Phe	Met	Ile 465

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                                     475
Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp
                                     490
                 485
Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His
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                 500
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Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser
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Ser Pro Glu Asp
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<211> 294

<212> PRT

<213> Homo sapiens

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Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala 35 40 45

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu
50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr \$110\$ \$115\$ \$120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys 140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly

175 180 170 Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val 205 200 Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly 235 Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr 250 Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly 275 Thr Gly Cys Cys Leu Cys Tyr Pro Asn 290 <210> 124 <211> 25 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 124 atcatctatt ccaccgtgtt ctggc 25 <210> 125 <211> 25 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 125 gacagagtgc tccatgatga tgtcc 25 <210> 126 <211> 50 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 126

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<211> 1636

<212> DNA

<213> Homo sapiens

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<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

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Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys
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Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser
50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
65 70 75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe 110 115

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro 140 145 150

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu

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Met	Tyr	Ala	Asp	Leu 215	Leu	Gln	Leu	Val	Lys 220	Val	Pro	Ile	Ser	Leu 225
Ser	Ile	Asp	Arg	Leu 230	Glu	Phe	Asp	Leu	Leu 235	Tyr	Pro	Ala	Ile	Lys 240
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Gln	Gly	Lys	Val	Thr 260	Lys	Trp	Phe	Asn	Asn 265	Ser	Ala	Ala	Ser	Leu 270
Thr	Met	Pro	Thr	Leu 275	Asp	Asn	Ile	Pro	Phe 280	Ser	Leu	Ile	Val	Ser 285
Gln	Asp	Val	Val	Lys 290	Ala	Ala	Val	Ala	Ala 295	Val	Leu	Ser	Pro	Glu 300
Glu	Phe	Met	Val	Leu 305	Leu	Asp	Ser	Val	Leu 310	Pro	Glu	Ser	Ala	His 315
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Lys	Leu	Gly	Ser	Thr 335	Gln	Ile	Val	Lys	Ile 340	Leu	Thr	Gln	Asp	Thr 345
Pro	Glu	Phe	Phe	11e 350	Asp	Gln	Gly	His	Ala 355	Lys	Val	Ala	Gln	Leu 360
Ile	Val	Leu	Glu	Val 365	Phe	Pro	Ser	Ser	Glu 370	Ala	Leu	Arg	Pro	Leu 375
Phe	Thr	Leu	Gly	Ile 380	Glu	Ala	Ser	Ser	Glu 385	Ala	Gln	Phe	Tyr	Thr 390
Lys	Gly	Asp	Gln	Leu 395	Ile	Leu	Asn	Leu	Asn 400	Asn	Ile	Ser	Ser	Asp 405
Arg	Ile	Gln	Leu	Met 410	Asn	Ser	Gly	Ile	Gly 415	Trp	Phe	Gln	Pro	Asp 420
Val	Leu	Lys	Asn	Ile 425	Ile	Thr	Glu	Ile	Ile 430	His	Ser	Ile	Leu	Leu 435
Pro	Asn	Gln	Asn	Gly 440	Lys	Leu	Arg	Ser	Gly 445	Val	Pro	Val	Ser	Leu 450
Val	Lys	Ala	Leu	Gly	Phe	Glu	Ala	Ala	Glu	Ser	Ser	Leu	Thr	Lys

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<211> 2213

<212> DNA

<213> Homo sapiens

<400> 129

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<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

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Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln

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Glu	Trp	Thr	Asn	Lys 50	Arg	Pro	Val	Ile	Arg 55	Met	Asn	Gly	Asp	Lys 60
Phe	Arg	Arg	Leu	Val 65	Lys	Ala	Pro	Pro	Arg 70	Asn	Tyr	Ser	Val	Ile 75
Val	Met	Phe	Thr	Ala 80	Leu	Gln	Leu	His	Arg 85	Gln	Cys	Val	Val	Cys 90
Lys	Gln	Ala	Asp	Glu 95	Glu	Phe	Gln	Ile	Leu 100	Ala	Asn	Ser	Trp	Arg 105
Tyr	Ser	Ser	Ala	Phe 110	Thr	Asn	Arg	Ile	Phe 115	Phe	Ala	Met	Val	Asp 120
Phe	Asp	Glu	Gly	Ser 125	Asp	Val	Phe	Gln	Met 130	Leu	Asn	Met	Asn	Ser 135
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Gly	Asp	Thr	Tyr	Glu 155	Leu	Gln	Val	Arg	Gly 160	Phe	Ser	Ala	Glu	Gln 165
Ile	Ala	Arg	Trp	Ile 170	Ala	Asp	Arg	Thr	Asp 175	Val	Asn	Ile	Arg	Val 180
Ile	Arg	Pro	Pro	Asn 185	Tyr	Ala	Gly	Pro	Leu 190	Met	Leu	Gly	Leu	Leu 195
Leu	Ala	Val	Ile	Gly 200	Gly	Leu	Val	Tyr	Leu 205	Arg	Arg	Ser	Asn	Met 210
Glu	Phe	Leu	Phe	Asn 215	Lys	Thr	Gly	Trp	Ala 220	Phe	Ala	Ala	Leu	Cys 225
Phe	Val	Leu	Ala	Met 230	Thr	Ser	Gly	Gln	Met 235	Trp	Asn	His	Ile	Arg 240
Gly	Pro	Pro	Tyr	Ala 245	His	Lys	Asn	Pro	His 250		Gly	His	Val	Asn 255
Tyr	Ile	His	Gly	Ser 260		Gln	Ala	Gln	Phe 265		Ala	Glu	Thr	His 270
Ile	Val	Leu	Leu	Phe 275		Gly	Gly	Val	Thr 280		Gly	Met	Val	Leu 285
Leu	Cys	Glu	Ala	Ala 290		Ser	Asp	Met	Asp 295		Gly	Lys	Arg	Lys 300
Tle	Met	Cvs	Val	Ala	Glv	lle	Gly	Leu	Val	Val	Leu	Phe	Phe	Ser

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Ser Phe Leu Met Ser 335

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<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131

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<210> 132
<211> 536
<212> PRT
<213> Homo sapiens
<400> 132
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 Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Arg Ala Ala Lys
 Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg
 Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile
 Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr
 Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly
 Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu
 Asp Pro Asn Tyr Thr Trp Met Asp Val Met Glu Arg His Gly
                 110
 Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His
                                     130
 His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala
                 140
                                     145
 Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg
                                     160
                 155
 Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr
                                     175
                 170
 Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr
 Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr
 Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His
                                     220
 Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys
                                     235
 Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr
                 245
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Tyr	Ser	Ser	Tyr	Thr 260	Lys	Asn	Cys	Thr	Gly 265	Arg	Phe	Thr	Lys	Lys 270
Glu	Ile	Lys	Asn	Ile 275	Arg	Ala	Phe	Tyr	Tyr 280	Ala	Met	Cys	Ala	Glu 285
Thr	Asp	Ala	Met	Leu 290	Gly	Glu	Ile	Ile	Leu 295	Ala	Leu	His	Gln	Leu 300
Asp	Leu	Leu	Gln	Lys 305	Thr	Ile	Val	Ile	Tyr 310	Ser	Ser	Asp	His	Gly 315
Glu	Leu	Ala	Met	Glu 320	His	Arg	Gln	Phe	Tyr 325	Lys	Met	Ser	Met	Tyr 330
Glu	Ala	Ser	Ala	His 335	Val	Pro	Leu	Leu	Met ·340	Met	Gly	Pro	Gly	Ile 345
Lys	Ala	Gly	Leu	Gln 350	Val	Ser	Asn	Val	Val 355	Ser	Leu	Val	Asp	Ile 360
Tyr	Pro	Thr	Met	Leu 365	Asp	Ile	Ala	Gly	Ile 370	Pro	Leu	Pro	Gln	Asn 375
Leu	Ser	Gly	Tyr	Ser 380	Leu	Leu	Pro	Leu	Ser 385	Ser	Glu	Thr	Phe	Lys 390
Asn	Glu	His	Lys	Val 395	Lys	Asn	Leu	His	Pro 400	Pro	Trp	Ile	Leu	Ser 405
Glu	Phe	His	Gly	Cys 410	Asn	Val	Asn	Ala	Ser 415	Thr	Tyr	Met	Leu	Arg 420
Thr	Asn	His	Trp	Lys 425	Tyr	Ile	Ala	Tyr	Ser 430	Asp	Gly	Ala	Ser	Ile 435
Leu	Pro	Gln	Leu	Phe 440	Asp	Leu	Ser	Ser	Asp 445	Pro	Asp	Glu	Leu	Thr 450
Asn	Val	Ala	Val	Lys 455	Phe	Pro	Glu	Ile	Thr 460	Tyr	Ser	Leu	Asp	Gln 465
Lys	Leu	His	Ser	Ile 470		Asn	Tyr	Pro	Lys 475	Val	Ser	Ala	Ser	Val 480
His	Gln	Tyr	Asn	Lys 485	Glu	Gln	Phe	Ile	Lys 490		Lys	Gln	Ser	Ile 495
Gly	Gln	Asn	Tyr	Ser 500	Asn	Val	Ile	Ala	Asn 505	Leu	Arg	Trp	His	Gln 510
Asp	Trp	Gln	Lys	Glu 515	Pro	Arg	Lys	Tyr	Glu 520		Ala	Ile	Asp	Gln 525
Trp	Leu	Lys	Thr	His 530		Asn	Pro	Arg	Ala 535					

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<210> 133
<211> 1475
<212> DNA
<213> Homo sapiens
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<400> 133 gagagaagtc agcctggcag agagactctg aaatgaggga ttagaggtgt 50 tcaaggagca agagcttcag cctgaagaca agggagcagt ccctgaagac 100 gettetactg agaggtetge catggeetet ettggeetee aacttgtggg 150 ctacatccta ggccttctgg ggcttttggg cacactggtt gccatgctgc 200 tccccagctg gaaaacaagt tcttatgtcg gtgccagcat tgtgacagca 250 gttggcttct ccaagggcct ctggatggaa tgtgccacac acagcacagg 300 catcacccag tgtgacatct atagcaccct tctgggcctg cccgctgaca 350 tccaggctgc ccaggccatg atggtgacat ccagtgcaat ctcctccctg 400 gcctgcatta tctctgtggt gggcatgaga tgcacagtct tctgccagga 450 atcccgagcc aaagacagag tggcggtagc aggtggagtc tttttcatcc 500 ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550 ctacgggact tctactcacc actggtgcct gacagcatga aatttgagat 600 tggagagget etttacttgg geattattte tteeetgtte teeetgatag 650 ctggaatcat cctctgcttt tcctgctcat cccagagaaa tcgctccaac 700 tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750 gcctggtcaa cctcccaaag tcaagagtga gttcaattcc tacagcctga 800 cagggtatgt gtgaagaacc aggggccaga gctggggggt ggctgggtct 850 gtgaaaaaca gtggacagca ccccgagggc cacaggtgag ggacactacc 900 actggatcgt gtcagaaggt gctgctgagg atagactgac tttggccatt 950 ggattgagca aaggcagaaa tgggggctag tgtaacagca tgcaggttga 1000 attgccaagg atgctcgcca tgccagcctt tctgttttcc tcaccttgct 1050 gctcccctgc cctaagtccc caaccctcaa cttgaaaccc cattccctta 1100 agccaggact cagaggatcc ctttgccctc tggtttacct gggactccat 1150 ccccaaaccc actaatcaca tcccactgac tgaccctctg tgatcaaaga 1200 ccctctctct ggctgaggtt ggctcttagc tcattgctgg ggatgggaag 1250 gagaagcagt ggcttttgtg ggcattgctc taacctactt ctcaagcttc 1300

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<210> 134

<211> 230

<211> 230 <212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu
1 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly 35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly
50 55 60

Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala 65 70 75

Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile 80 85 90

Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr 95 100 105

Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 110 115 120

Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro 125 130 135

Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro 140 145 150

Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr 155 160 165

Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile 170 175 180

Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 185 190 195

Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg 200 205 210

Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser 215 220 225

Leu Thr Gly Tyr Val 230

<210> 135

<211> 610

<212> DNA

<213> Homo sapiens

<400> 135

geactgetge tyteceatea getgetetga agetecatgg tycecagaat 50 cttegeteet gettatyty cagtetyte ecteetetty tytecaaggg 100 aagteatege teeegetgge teagaaceat ggetgtgeea geeggeaeee 150 aggtgtggag acaagateta caacecetty gageagtget gttacaatga 200 egecategty teeetgageg agaeeegeea atgtggteee eeetgeaeet 250 tetggeeetg etttgagete tyeetgtetty atteetttgy ecteacaaae 300 gattttyty tyaagetgaa ggtteaggyt gtgaatteee agtgeeaete 350 ateteeeate teeagtaaat gtgaaageag aagaeegttt eeetgagaag 400 acatagaaag aaaateaaet tteaetaagg eateteagaa acataggeta 450 aggtaataty tytaeegga gagaageetg aggaatttae aaaatgatge 500 ageteeaage eattgtatgg eeetatggg agaetgatgg gacatggaga 550 atgaeagtag attateagga aataaataaa gtggtttte eaatgtaeae 600 aeetgtaaaa 610

<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu 1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu 20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu
50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys

Phe Glu Leu Cys Cys Reu Asp Ser Phe Gly Leu Thr Asn Asp Phe 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Phe Pro 110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400'> 137 ctccactgca accacccaga gccatggctc cccgaggctg catcgtagct 50 gtctttgcca ttttctgcat ctccaggctc ctctgctcac acggagcccc 100 agtggccccc atgactcctt acctgatgct gtgccagcca cacaagagat 150 gtggggacaa gttctacgac cccctgcagc actgttgcta tgatgatgcc 200 gtcgtgccct tggccaggac ccagacgtgt ggaaactgca ccttcagagt 250 ctgctttgag cagtgctgcc cctggacctt catggtgaag ctgataaacc 300 agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 gctgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatgc gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctgggga acccttcacc cttctgtgag attttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys

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Ile Ser Arg Leu Leu Cys Ser His Gly Ala Pro Val Ala Pro Met 20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp 35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val 50 55 60

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg
65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu 80 85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu 95 100 105

Cys Arg Ser Val Ser 110

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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ttcaagggat tgaaaacccc ggctttgaag cctcaccacc tgcccagggg 900
atacccgagg ccaaagtcag gcacccctg tectatgtgg cccageggca 950
gccttctgag tctgggcggc atctgctttc ggagcccagc accccctgt 1000
ctcctccagg ccccggagac gtcttcttcc catccctgga ccctgtccct 1050
gactetecaa aetttgaggt eatetageee agetggggga eagtgggetg 1100
ttgtggctgg gtctggggca ggtgcatttg agccagggct ggctctgtga 1150
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gttgccccac ccactggaga tggtgctgag ggaggtgggt ggggccttct 1850
gggaaggtga gtggagaggg gcacctgccc cccgccctcc ccatccccta 1900
ctcccactgc tcagcgcggg ccattgcaag ggtgccacac aatgtcttgt 1950
ccaccctggg acacttctga gtatgaagcg ggatgctatt aaaaactaca 2000
tggggaaaaa aaaaaaaaaa aaaaaaaaaa aaga 2044
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<sup>&</sup>lt;210> 140

<sup>&</sup>lt;211> 311

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<400>														
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Ser	Leu	Leu	Phe	Ala 20	Leu	Phe	Leu	Ala	Ala 25	Ser	Leu	Gly	Pro	Val 30
Ala	Ala	Phe	Lys	Val 35	Ala	Thr	Pro	Tyr	Ser 40	Leu	Tyr	Val	Cys	Pro 45
Glu	Gly	Gln	Asn	Val 50	Thr	Leu	Thr	Cys	Arg 55	Leu	Leu	Gly	Pro	Val 60
Asp	Lys	Gly	His	Asp 65	Val	Thr	Phe	Tyr	Lys 70	Thr	Trp	Tyr	Arg	Ser 75
Ser	Arg	Gly	Glu	Val 80	Gln	Thr	Суѕ	Ser	Glu 85	Arg	Arg	Pro	Ile	Arg 90
Asn	Leu	Thr	Phe	Gln 95	Asp	Leu	His	Leu	His 100	His	Gly	Gly	His	Gln 105
Ala	Ala	Asn	Thr	Ser 110	His	Asp	Leu	Ala	Gln 115	Arg	His	Gly	Leu	Glu 120
Ser	Ala	Ser	Asp	His 125	His	Gly	Asn	Phe	Ser 130	Ile	Thr	Met	Arg	Asn 135
Leu	Thr	Leu	Leu	Asp 140	Ser	Gly	Leu	Tyr	Cys 145	Cys	Leu	Val	Val	Glu 150
Ile	Arg	His	His	His 155	Ser	Glu	His	Arg	Val 160	His	Gly	Ala	Met	Glu 165
Leu	Gln	Val	Gln	Thr 170	Gly	Lys	Asp	Ala	Pro 175	Ser	Asn	Cys	Val	Val 180
Tyr	Pro	Ser	Ser	Ser 185	Gln	Asp	Ser	Glu	Asn 190	Ile	Thr	Ala	Ala	Ala 195
Leu	Ala	Thr	Gly	Ala 200	Cys	Ile	Val	Gly	Ile 205	Leu	Cys	Leu	Pro	Leu 210
Ile	Leu	Leu	Leu	Val 215	Tyr	Lys	Gln	Arg	Gln 220	Ala	Ala	Ser	Asn	Arg 225
Arg	Ala	Gln	Glu	Leu 230	Val	Arg	Met	Asp	Ser 235	Asn	Ile	Gln	Gly	Ile 240
Glu	Asn	Pro	Gly	Phe 245	Glu	Ala	Ser	Pro	Pro 250	Ala	Gln	Gly	Ile	Pro 255
Glu	Ala	Lys	Val	Arg 260		Pro	Leu	Ser	Tyr 265		Ala	Gln	Arg	Gln 270
Pro	Ser	Glu	Ser	Gly	Arg	His	Leu	Leu	Ser	Glu	Pro	Ser	Thr	Pro

275 280 .285

Leu Ser Pro Pro Gly Pro Gly Asp Val Phe Pro Ser Leu Asp 290 295 300

Pro Val Pro Asp Ser Pro Asn Phe Glu Val Ile 305 310

<210> 141

<211> 1732

<212> DNA

<213> Homo sapiens

<400> 141

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<210> 142

<211> 451

<212> PRT

<213> Homo sapiens

## <400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala 1 5 10 15

Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp 20 25 30

Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser

Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg
50 55 60

Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His
65 70 75

Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln 80 85 90

Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg 95 100 105

Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His 110 115 120

Gly	Glu	Ile	Phe	Ser 125	Ala	His	Glu	Leu	Phe 130	Pro	Ser	Arg	Leu	Pro 135
Asn	Gln	Cys	Val	Leu 140	Cys	Ser	Cys	Thr	Glu 145	Gly	Gln	Ile	Tyr	Cys 150
Gly	Leu	Thr	Thr	Cys 155	Pro	Glu	Pro	Gly	Cys 160	Pro	Ala	Pro	Leu	Pro 165
Leu	Pro	Asp	Ser	Cys 170	Cys	Gln	Ala	Cys	Lys 175	Asp	Glu	Ala	Ser	Glu 180
Gln	Ser	Asp	Glu	Glu 185	Asp	Ser	Val	Gln	Ser 190	Leu	His	Gly	Val	Arg 195.
His	Pro	Gln	Asp	Pro 200	Cys	Ser	Ser	Asp	Ala 205	Gly	Arg	Lys	Arg	Gly 210
Pro	Gly	Thr	Pro	Ala 215		Thr	Gly	Leu	Ser 220	Ala	Pro	Leu	Ser	Phe 225
Ile	Pro	Arg	His	Phe 230	Arg	Pro	Lys	Gly	Ala 235	Gly	Ser	Thr	Thr	Val 240
Lys	Ile	Val	Leu	Lys 245	Glu	Lys	His	Lys	Lys 250	Ala	Суѕ	Val	His	Gly 255
Gly	Lys	Thr	Tyr	Ser 260	His	Gly	Glu	Val	Trp 265	His	Pro	Ala	Phe	Arg 270
Ala	Phe	Gly	Pro	Leu 275	Pro	Суѕ	Ile	Leu	Cys 280	Thr	Cys	Glu	Asp	Gly 285
Arg	Gln	Asp	Cys	Gln 290	Arg	Val	Thr	Cys	Pro 295	Thr	Glu	Tyr	Pro	Cys 300
Arg	His	Pro	Glu	Lys 305	Val	Ala	Gly	Lys	Cys 310	Cys	Lys	Ile	Cys	Pro 315
Glu	Asp	Lys	Ala	Asp 320	Pro	Gly	His	Ser	Glu 325	Ile	Ser	Ser	Thr	Arg 330
Cys	Pro	Lys	Ala	Pro 335	Gly	Arg	Val	Leu	Val 340	His	Thr	Ser	Val	Ser 345
Pro	Ser	Pro	Asp	Asn 350		Arg	Arg	Phe	Ala 355	Leu	Glu	His	Glu	Ala 360
Ser	Asp	Leu	Val	Glu 365		Tyr	Leu	Trp	Lys 370	Leu	Val	Lys	Asp	Glu 375
Glu	Thr	Glu	Ala	Gln 380		Gly	Glu	Val	Pro 385		Pro	Arg	Pro	His 390
Ser	Gln	Asn	Leu	Pro 395		Asp	Ser	Asp	Gln 400		Ser	Gln	Glu	Ala 405

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Cys	Pro	Arg	Glu	Asn 320		Glu	Ala	Ala	Phe 325		Ile	Cys	Gly	Thr 330
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Ala Leu Pro Tyr Phe 365 Pro Arg Arg Tyr Gly Ala His Ala Ser Leu 375

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Gln	Leu	Leu	Cys	Gln 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Arg	Pro	Thr	Ala 165
Lys	Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Thr	Asp	Ser	Arg 180
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Trp	Arg	Arg	Lys	His 275		Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
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Ala	Thr	Thr	Val	Pro 155	Ala	Pro	Thr	Thr	Pro 160	Arg	Thr	Pro	Thr	Pro 165
Asp	Leu	Pro	Ser	Ser 170	Ser	Asn	Ser	Ser	Val 175	Leu	Pro	Thr	Pro	Pro 180
Ala	Thr	Glu	Ala	Pro 185	Ser	Ser	Pro	Pro	Pro 190	Glu	Tyr	Val	Cys	Asn 195
Cys	Ser	Val	Val	Gly	Ser	Leu	Asn	Val	Asn 205	Arg	Cys	Asn	Gln	Thr 210

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ctccggatgg gtgtttgaga atccctcaat aggcgtgctg gagctctggg 350 tgctggccac caacttcaga gactatgcca tcatcttcac tcagctggag 400 ttcggggacg agcccttcaa caccgtggag ctgtacagtc tgacggagac 450 agccagccag gaggccatgg ggctcttcac caagtggagc aggagcctgg 500 getteetgte acagtageag geeeagetge agaaggaeet cacetgtget 550 cacaagatcc ttctgtgagt gctgcgtccc cagtagggat ggcgcccaca 600 gggtcctgtg acctcggcca gtgtccaccc acctcgctca gcggctcccg 650 gggcccagca ccagctcaga ataaagcgat tccacagca 689 <210> 158 <211> 163 <212> PRT <213> Homo sapiens <400> 158 Met Gly Gly Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 95 Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 110 Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 125 Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu 150 Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln

<211> 1665

<212> DNA

<213> Homo sapiens

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cctgactgaa ccttgggcag aagacagtcc cccagaccag cctcccccag 1300

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caccgagtac tcggagatca agatccacag atgagaaact gcagagactc 1450
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tgattcttgt agaattaaca gccctcaacg tgatgagcta tgataacact 1550
atgaattatg tgcagagtga aaagcacaca ggctttagag tcaaagtatc 1600
tcaaacctga atccacactg tgccctccct tttattttt taactaaaag 1650
acagacaaat tccta 1665

<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

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Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr
20 25 30

Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala
65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg 80 85 90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg 110 115 120

Met Glu Lys Gly Ser Ile Lys Trp Asn Tyr Lys His His Arg Leu 125 130 135

Ser Val Asn Val Thr Ala Leu Thr His Arg Pro Asn Ile Leu Ile

Pro Gly Thr Leu Glu Ser Gly Cys Pro Gln Asn Leu Thr Cys Ser 155 160 165

Val Pro Trp Ala Cys Glu Gln Gly Thr Pro Pro Met Ile Ser Trp 170 175 180

Ile	Gly	Thr	Ser	Val 185	Ser	Pro	Leu	Asp	Pro 190	Ser	Thr	Thr	Arg	Ser 195
Ser	Val	Leu	Thr	Leu 200	Ile	Pro	Gln	Pro	Gln 205	Asp	His	Gly	Thr	Ser 210
Leu	Thr	Cys	Gln	Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys	Thr	Val	His	Leu 230	Asn	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met	Thr	Val	Phe	Gln 245	Gly	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn	Gly	Ser	Ser	Leu 260	Ser	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val	Cys	Ala	Val	Asp 275	Ala	Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser	Leu	Ser	Trp	Arg 290	Gly	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn	Pro	Gly	Val	Leu 305	Glu	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala	Glu	Phe	Thr	Cys 320	Arg	Ala	Gln	Asn	Pro 325	Leu	Gly	Ser	Gln	Gln 330
Val	Tyr	Leu	Asn	Val 335	Ser	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr	Gln	Gly	Val	Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu	Ser	Phe	Суз	Val 365		Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys	Ser	Ala	Arg	Pro 380		Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp	Ala	Asn	Ala	Val 395	Arg	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405
Glu	Pro	Trp	Ala	Glu 410		Ser	Pro	Pro	Asp 415		Pro	Pro	Pro	Ala 420
Ser	Ala	Arg	Ser	Ser 425		. Gly	Glu	Gly	Glu 430		Gln	Туг	Ala	Ser 435
Leu	ı Ser	Phe	Gln	Met 440		Lys	Pro	Trp	Asp 445		Arg	Gly	/ Gln	Glu 450
Ala	a Thr	Asp	Thr	Glu 455		Ser	Glu	ılle	Lys 460		His	Arç	J	

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<211> 739
<212> DNA
<213> Homo sapiens
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 cctggaggag gaggatatca cagggacctg gtacgtgaag gccatggtgg 150
 tcgataagga ctttccggag gacaggaggc ccaggaaggt gtccccagtg 200
 aaggtgacag ccctgggcgg tgggaagttg gaagccacgt tcaccttcat 250
 gagggaggat cggtgcatcc agaagaaaat cctgatgcgg aagacggagg 300
 agectggeaa atacagegee tatgggggea ggaageteat gtacetgeag 350
 gagetgeeca ggagggaeca etacatettt taetgeaaag accageaeca 400
 tgggggcctg ctccacatgg gaaagcttgt gggtaggaat tctgatacca 450
 accgggaggc cctggaagaa tttaagaaat tggtgcagcg caagggactc 500
 teggaggagg acatttteae geeeetgeag aegggaaget gegtteeega 550
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 <210> 162
<211> 170
<212> PRT
<213> Homo sapiens
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 Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr
 Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg
 Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly
  Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile
                                    70
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Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr
                                      85
Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro
                                     100
Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly
                                     115
                110
Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr
Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys
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Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser
Cys Val Pro Glu His
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<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 163
ggagatgaag accetgttee tg 22
<210> 164
<211> 26
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 164
 ggagatgaag accetgttcc tgggtg 26
<210> 165
<211> 21
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 165
 gtcctccgga aagtccttat c 21
<210> 166
<211> 25
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<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 166
 gcctagtgtt cgggaacgca gcttc 25
<210> 167
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 167
 cagggacctg gtacgtgaag gccatggtgg tcgataagga ctttccggag 50
<210> 168
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 168
 ctgtccttca ccctggagga ggaggatatc acagggacct ggtac 45
<210> 169
<211> 1204
<212> DNA
<213> Homo sapiens
<400> 169
 gttccgcaga tgcagaggtt gaggtggctg cgggactgga agtcatcggg 50
 cagaggtete acageageea aggaacetgg ggeeegetee teceeetee 100
 aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 150
 gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
 ccagccctgg caggcagccc tgttcgagaa gacgcggcta ctctgtgggg 250
 cgacgctcat cgccccaga tggctcctga cagcagccca ctgcctcaag 300
  ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
  ctgtgagcag acccggacag ccactgagte cttcccccae cccggcttca 400
  acaacageet ecceaacaaa gaccaeegea atgacateat getggtgaag 450
  atggcatege cagteteeat cacetggget gtgegaeeee teaeeetete 500
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gcacgtccag cccccagtta cgcctgcctc acaccttgcg atgcgccaac 600
atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
cacagacacc atggtgtgtg ccagcgtgca ggaagggggc aaggactcct 700
gecagggtga eteeggggge eetetggtet gtaaccagte tetteaagge 750
attateteet ggggeeagga teegtgtgeg ateaecegaa ageetggtgt 800
ctacacgaaa gtctgcaaat atgtggactg gatccaggag acgatgaaga 850
acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
tggtgtttgg ttcctgttca ctctgttaat aagaaaccct aagccaagac 950
cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
ccttgaaata ttgtgactct gggaatgaca acacctggtt tgttctctgt 1100
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aaaa 1204
<210> 170
<211> 250
<212> PRT
<213> Homo sapiens
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 Val Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
 His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
 Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
 Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
 Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
 Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
                                                       105
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ctcacgctgt gtcactgctg gcaccagctg cctcatttcc ggctggggca 550

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Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
                                     115
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
                                     130
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
                                     145
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
                                     160
                155
Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
                 170
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
                 185
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
                 200
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
                 245
<210> 171
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 171
ggctgcggga ctggaagtca tcggg 25
<210> 172
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 172
ctccaggcca tgaggattct gcag 24
<210> 173
<211> 18
<212> DNA
<213> Artificial Sequence
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<220>
<223> Synthetic oligonucleotide probe
<400> 173
cctctggtct gtaaccag 18
<210> 174
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 174
 tctgtgatgt tgccggggta ggcg 24
<210> 175
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 175
 cgtgtagaca ccaggctttc gggtg 25
<210> 176
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 176
 cccttgatga tcctggtc 18
<210> 177
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
 <400> 177
 aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 50
 <210> 178
 <211> 43
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
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gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43
<210> 179
<211> 907
<212> DNA
<213> Homo sapiens
<400> 179
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gattcattgt tttcttttat ctgtggggcc tttttactgc tcagagacaa 100
 aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
 agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
 atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
 caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
 aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
 aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
 ggcaagattc caccggatgc tacattgatt tttgagattg aactttatgc 450
 tgtgaccaaa ggaccacgga gcattgagac atttaaacaa atagacatgg 500
 acaatgacag gcagctctct aaagccgaga taaacctcta cttgcaaagg 550
 gaatttgaaa aagatgagaa gccacgtgac aagtcatatc aggatgcagt 600
 tttagaagat atttttaaga agaatgacca tgatggtgat ggcttcattt 650
 ctcccaagga atacaatgta taccaacacg atgaactata gcatatttgt 700
 atttctactt tttttttta gctatttact gtactttatg tataaaacaa 750
 agtcactttt ctccaagttg tatttgctat ttttccccta tgagaagata 800
 ttttgatctc cccaatacat tgattttggt ataataaatg tgaggctgtt 850
 aaaaaaa 907
<210> 180
<211> 222
<212> PRT
<213> Homo sapiens
<400> 180
 Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe
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<400> 178

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Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn
Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr
Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg
Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly
Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro
Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly
Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu
                125
Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser
Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
                155
Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
                                     175
                170
Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
                                                         195
                185
Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
                 215
<210> 181
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 181
gtgttctgct ggagccgatg cc 22
<210> 182
<211> 18
<212> DNA
<213> Artificial Sequence
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<220>
<223> Synthetic oligonucleotide probe
<400> 182
 gacatggaca atgacagg 18
<210> 183
<211> 18
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 183
cctttcagga tgtaggag 18
<210> 184
<211> 18
<212> DNA
<213> Artificial Sequence
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<400> 184
 gatgtctgcc accccaag 18
<210> 185
<211> 27
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 185
 gcatcctgat atgacttgtc acgtggc 27
<210> 186
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 186
 tacaagaggg aagaggagtt gcac 24
<210> 187
 <211> 52
 <212> DNA
 <213> Artificial Sequence
 <220>
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<223> Synthetic oligonucleotide probe
<400> 187
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 cc 52
<210> 188
<211> 573
<212> DNA
<213> Homo sapiens
<400> 188
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 ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
 cccaaatgct teetgtgtea ataacaetea etgeacetge aaccatggat 150
 atacttctgg atctgggcag aaactattca cattcccctt ggagacatgt 200
 aacgccaggc atggtggctc gcgcctgtaa tcccagttct ttgggaagcc 250
 aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300
 atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350
 ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400
 cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450
 ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500
 ttettgttte atttegegae tgeeetetea gtgttteetg ggateeeete 550
 ccaaataaag tacttatatt ctc 573
<210> 189
<211> 74
<212> PRT
<213> Homo sapiens
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 Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys
 Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys
 Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe
 Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu
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70

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<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 190
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<210> 191
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 191
 cgttacatgt ctccaagggg aatg 24
<210> 192
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 192
 cctgtgctaa gtgcccccca aatgcttcct gtgtcaataa cactcactgc 50
<210> 193
<211> 1091
<212> DNA
<213> Homo sapiens
<400> 193
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 ggtggggggc acagggaaag ggtgacctct gagattcccc ttttccccca 100
 gactttggaa gtgacccacc atggggctca gcatcttttt gctcctgtgt 150
 gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200
 gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250
 gcctgcgctg cgggggtgtc cttattgacc acaggtgggt cctcacagcg 300
 gctcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350
 cagecagete gaetggaeeg ageagateeg geacagegge ttetetgtga 400
 cccatcccgg ctacctggga gcctcgacga gccacgagca cgacctccgg 450
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<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

# <400> 194

Met Gly Leu Ser Ile Phe Leu Leu Cys Val Leu Gly Leu Ser 1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg  $20 \hspace{1cm} 25 \hspace{1cm} 30$ 

Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu 35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala
50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His
65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His

Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val

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Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr
                                    130
Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His
                                    145
                140
Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser
Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile
                                    175
Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala
Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu
Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp
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<211> 150

<212> PRT

<213> Homo sapiens

<400> 196

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Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp
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Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met
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<211> 1523

<212> PRT

<213> Homo sapiens

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Leu	Gln	Val	Leu	Pro 125	Glu	Leu	Leu	Phe	Gln 130	Ser	Thr	Pro	Lys	Leu 135
Thr	Arg	Leu	Asp	Leu 140		Glu	Asn	Gln	Ile 145	Gln	Gly	Ile	Pro	Arg 150
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Arg	Asp	Leu	Glu	Ile 185	Leu	Thr	Leu	Asn	Asn 190	Asn	Asn	Ile	Ser	Arg 195
Ile	Leu	Val	Thr	Ser 200		Asn	His	Met	Pro 205	Lys	Ile	Arg	Thr	Leu 210
Arg	Leu	His	Ser	Asn 215		Leu	Tyr	Cys	Asp 220	Cys	His	Leu	Ala	Trp 225
Leu	Ser	Asp	·Trp	Leu 230		Gln	Arg	Arg	Thr 235	Val	Gly	Gln	Phe	Thr 240
Leu	Cys	Met	Ala	Pro 245		His	Leu	Arg	Gly 250	Phe	Asn	Val	Ala	Asp 255
Val	Gln	Lys	Lys	Glu 260		· Val	Cys	Pro	Ala 265	Pro	His	Ser	Glu	Pro 270
Pro	Ser	Cys	Asn	Ala 275		. Ser	lle	Ser	Cys 280		Ser	Pro	Cys	Thr 285
Cys	s Ser	: Asn	Asn	11e		. Asp	Cys	Arg	Gl <sub>3</sub> 295	y Lys	s Gly	, Leu	Met	Glu 300
Ile	e Pro	) Ala	. Asn	Le:		o Glu	ı Gly	, Ile	• Val	l Glu	ı Ile	e Arç	Leu	Glu 315
C1.	~ 7\~~	S Cox	- T10	T.376	. Δ1:	a T1's	Pro	Ala	Glv	z Ala	a Phe	e Thr	Gln	Tyr

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Asp	Gly	Leu	Val	Ser 380	Leu	Gln	Leu	Leu	Leu 385	Leu	Asn	Ala	Asn	Lys 390
Ile	Asn	Cys	Leu	Arg 395	Val	Asn	Thr	Phe	Gln 400	Asp	Leu	Gln	Asn	Leu 405
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Tyr	Leu	Gln	Asp	Asn 455	Pro	Ile	Glu	Thr	Ser 460	Gly	Ala	Arg	Cys	Ser 465
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Lys	Lys	Phe	Arg	Cys 485	Ser	Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
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Cys	Glu	Gly	Thr	Ile 515	Val	Asp	Cys	Ser	Asn 520		Lys	Leu	Val	Arg 525
Ile	Pro	Ser	His	Leu 530	Pro	Glu	Туг	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
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Cys	Ile	Pro	Leu	Asp 1055	Lys	Gly	Phe	Ser	Cys 1060	Glu	Суз	Val	Pro	Gly 1065
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His	Pro	Pro	Pro	Met 1115		. Leu	Leu	Gln	Thr 1120	Ser	Pro	Cys	Asp	Gln 1125
Туз	Glu	ı Cys	Glr	1130		/ Ala	Gln	Суѕ	1135	val	. Val	Glr	Glr	n Glu 1140
Pro	Thr	Cys	s Arg	g Cys 1145		Pro	Gly	Phe	Ala 1150	Gly	/ Pro	Arç	g Cys	s Glu 1155
Ly	s Leu	ı Ile	e Thi	Val		n Phe	val	Gly	y Lys 1165	s Asp	Sei	туз	· Vai	l Glu 1170
т	. 7.1-	900	~ 7\1-	a T.v.e	s Va	l Arc	r Pro	Glr	n Ala	a Ası	ı Ile	e Sei	. Le	u Glr

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Pro	Leu	Tyr		Gly 1280	Gly	Ile	Pro		Ser 285	Thr	Gly	Leu	Ser Ala 1290
Leu	Arg	Gln		Thr 1295	Asp	Arg	Pro		Gly 300	Gly	Phe	His	Gly Cys 1305
Ile	His	Glu		Arg 1310	Ile	Asn	Asn		Leu 315	Gln	Asp	Phe	Lys Ala 1320
Leu	Pro	Pro		Ser 1325	Leu	Gly	Val		Pro 330	Gly	Cys	Lys	Ser Cys 1335
Thr	Val	Cys		His 1340	Gly	Leu	Cys		Ser 345	Val	Glu	Lys	Asp Ser 1350
Val	Val	Cys		Cys 1355	Arg	Pro	Gly		Thr 360	Gly	Pro	Leu	Cys Asp 1365
Gln	Glu	Ala		Asp 1370	Pro	Суѕ	Leu		His 375	Arg	Cys	His	His Gly 1380
Lys	Cys	Val		Thr 1385	Gly	Thr	Ser		Met 390	Cys	Lys	Cys	Ala Glu 1395
Gly	Tyr	Gly	Gly	Asp 1400		Cys	Asp		Lys 405	Asn	Asp	Ser	Ala Asn 1410
Ala	Cys	Ser	Ala	Phe 1415		Cys	His		Gly .420		Cys	His	Ile Ser 1425
Asp	Gln	Gly	Glu	Pro 1430		Cys	Leu		Gln .435		Gly	Phe	Ser Gly 1440
Glu	His	Cys	Gln	Gln 1445		Asn	Pro		Leu 450		Gln	Val	Val Arg 1455
Glu	. Val	Tlo	Δra	Ara	Glo	Lvs	Glv	Tvr	Ala	Ser	Cvs	Ala	Thr Ala

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1470
                                    1465
                1460
Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln
                1475
Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln
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Cys Thr Asp Gly Ser Ser Phe Val Glu Glu Val Glu Arg His Leu
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Glu Cys Gly Cys Leu Ala Cys Ser
                1520
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<210> 200
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<213> Artificial Sequence
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<400> 200
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<210> 201
<211> 50
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<223> Synthetic oligonucleotide probe
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 gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 50
<210> 202
<211> 753
<212> DNA
<213> Homo sapiens
<400> 202
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caattactgg ggcttcagcc ttggaaactg gatctgcatg gcatattatg 300
agageggeta caacaceaca geecegaegg teetggatga eggeageate 350
gactatggca tettecagat caacagette gegtggtgea gacgeggaaa 400
gctgaaggag aacaaccact gccatgtcgc ctgctcagcc ttgatcactg 450
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caaggaatga actattggca aggctggaag aaacattgtg agggcagaga 550
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cctgtgtcat cttgtcccgt ttcctcccaa tattccttct caaacttgga 700
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gtc 753
<210> 203
<211> 148
<212> PRT
<213> Homo sapiens
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 Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile
 Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly
 Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
 Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
 Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
 Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
                                                          120
                                      115
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quatetgeet ttteagttet gteteeggea ggetttgagg atgaaggetg 150

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Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
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Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
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<223> Synthetic oligonucleotide probe

<400> 208

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<210> 209

<211> 1648

<212> DNA

<213> Homo sapiens

<400> 209

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#### <400> 210

Met	Pro	Leu	Leu	Lys	Leu	Val	His	Gly	Ser	Pro	Leu	Val	Phe	Gly
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Glu Lys Phe Lys Leu Phe Thr Leu Val Ser Ala Cys Ile Pro Val 20 25 30

Phe Arg Leu Ala Arg Arg Lys Lys Ile Leu Phe Tyr Cys His
35 40 45

Phe Pro Asp Leu Leu Thr Lys Arg Asp Ser Phe Leu Lys Arg 50 55 60

Leu Tyr Arg Ala Pro Ile Asp Trp Ile Glu Glu Tyr Thr Thr Gly
65 70 75

Met Ala Asp Cys Ile Leu Val Asn Ser Gln Phe Thr Ala Ala Val

Phe Lys Glu Thr Phe Lys Ser Leu Ser His Ile Asp Pro Asp Val95 100 105

Leu Tyr Pro Ser Leu Asn Val Thr Ser Phe Asp Ser Val Val Pro

Glu Lys Leu Asp Asp Leu Val Pro Lys Gly Lys Lys Phe Leu Leu 125 130 135

Leu Ser Ile Asn Arg Tyr Glu Arg Lys Lys Asn Leu Thr Leu Ala 140 145 150

Leu Glu Ala Leu Val Gln Leu Arg Gly Arg Leu Thr Ser Gln Asp

<sup>&</sup>lt;210> 210

<sup>&</sup>lt;211> 323

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

				155					160					165
Trp	Glu	Arg	Val	His 170	Leu	Ile	Val	Ala	Gly 175	Gly	Tyr	Asp	Glu	Arg 180
Val	Leu	Glu	Asn	Val 185	Glu	His	Tyr	Gln	Glu 190	Leu	Lys	Lys	Met	Val 195
Gln	Gln	Ser	Asp	Leu 200	Gly	Gln	Tyr	Val	Thr 205	Phe	Leu	Arg	Ser	Phe 210
Ser	Asp	Lys	Gln	Lys 215	Ile	Ser	Leu	Leu	His 220	Ser	Суѕ	Thr	Cys	Val 225
Leu	Tyr	Thr	Pro	Ser 230	Asn	Glu	His	Phe	Gly 235	Ile	Val	Pro	Leu	Glu 240
Ala	Met	Tyr	Met	Gln 245	Cys	Pro	Val	Ile	Ala 250	Val	Asn	Ser	Gly	Gly 255
Pro	Leu	Glu	Ser	Ile 260	Asp	His	Ser	Val	Thr 265	Gly	Phe	Leu	Cys	Glu 270
Pro	Asp	Pro	Val	His 275	Phe	Ser	Glu	Ala	Ile 280	Glu	Lys	Phe	Ile	Arg 285
Glu	Pro	Ser	Leu	Lys 290	Ala	Thr	Met	Gly	Leu 295	Ala	Gly	Arg	Ala	Arg 300
Val	Lys	Glu	Lys	Phe 305	Ser	Pro	Glu	Ala	Phe 310	Thr	Glu	Gln	Leu	Tyr 315
Arg	Tyr	Val	Thr	Lys 320	Leu	Leu	Val							
	> 213													

<212> DNA

<213> Homo sapiens

<400> 211

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accacatgag gaaaaaattg tatgaaaatg gtgtgactga ttctctgaag 450
agtaactttg ccctcctcct aaagctttca gaagaattat tagataaatg 500
getetectae ecagagacce ageaegtgee ceteageeag catatgettg 550
gttttgctat gaagtctgtt acacagatgg taatgggtag tacatttgaa 600
gatgatcagg aagtcattcg cttccagaag aatcatggca cagtttggtc 650
tgagattgga aaaggettte tagatgggte aettgataaa aacatgaete 700
ggaaaaaaca atatgaagat gccctcatgc aactggagtc tgttttaagg 750
aacatcataa aagaacgaaa aggaaggaac ttcagtcaac atattttcat 800
tgactcctta gtacaaggga accttaatga ccaacagatc ctagaagaca 850
gtatgatatt ttctctggcc agttgcataa taactgcaaa attgtgtacc 900
tgggcaatct gtttttaac cacctctgaa gaagttcaaa aaaaattata 950
tgaagagata aaccaagttt ttggaaatgg tcctgttact ccagagaaaa 1000
ttgagcagct cagatattgt cagcatgtgc tttgtgaaac tgttcgaact 1050
gccaaactga ctccagtttc tgcccagctt caagatattg aaggaaaaat 1100
tgaccgattt attattccta gagagaccct cgtcctttat gcccttggtg 1150
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gatcggtttg atgatgaatt agtaatgaaa actttttcct cacttggatt 1250
ctcaggcaca caggagtgtc cagagttgag gtttgcatat atggtgacca 1300
cagtacttct tagtgtattg gtgaagagac tgcacctact ttctgtggag 1350
ggacaggtta ttgaaacaaa gtatgaactg gtaacatcat caagggaaga 1400
agcttggatc actgtctcaa agagatatta aaattttata catttaaaat 1450
cattgttaaa ttgattgagg aaaacaacca tttaaaaaaa atctatgttg 1500
aatcetttta taaaccagta teaetttgta atataaacae etatttgtae 1550
ttaa 1554
<210> 212
<211> 462
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Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu

<212> PRT

<400> 212

<213> Homo sapiens

Val	Gly	Ala	Val	Leu 20	Tyr	Leu	Tyr	Pro	Ala 25	Ser	Arg	Gln	Ala	Ala 30
Gly	Ile	Pro	Gly	Ile 35	Thr	Pro	Thr	Glu	Glu 40	Lys	Asp	Gly	Asn	Leu 45
Pro	Asp	Ile	Val	Asn 50	Ser	Gly	Ser	Leu	His 55	Glu	Phe	Leu	Val	Asn 60
Leu	His	Glu	Arg	Tyr 65	Gly	Pro	Val	Val	Ser 70	Phe	Trp	Phe	Gly	Arg 75
Arg	Leu	Val	Val	Ser 80	Leu	Gly	Thr	Val	Asp 85	Val	Leu	Lys	Gln	His 90
Ile	Asn	Pro	Asn	Lys 95	Thr	Ser	Asp	Pro	Phe 100	Glu	Thr	Met	Leu	Lys 105
Ser	Leu	Leu	Arg	Tyr 110	Gln	Ser	Gly	Gly	Gly 115	Ser	Val	Ser	Glu	Asn 120
His	Met	Arg	Lys	Lys 125	Leu	Tyr	Glu	Asn	Gly 130	Val	Thr	Asp	Ser	Leu 135
Lys	Ser	Asn	Phe	Ala 140	Leu	Leu	Leu	Lys	Leu 145	Ser	Glu	Glu	Leu	Leu 150
Asp	Lys	Trp	Leu	Ser 155	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln	His	Met	Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Val 180
Met	Gly	Ser	Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Gln 195
Lys	Asn	His	Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Leu 210
Asp	Gly	Ser	Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
Asp	Ala	Leu	Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu	Arg	Lys	Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Ser 255
Leu	Val	Gln	Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Ser 270
Met	Ile	Phe	Ser	Leu 275	Ala	Ser	Cys	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr	Trp	Ala	Ile	Cys 290		Leu	Thr	Thr	Ser		Glu	Val	Gln	Lys 300

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Lys Leu Tyr Glu Glu Ile Asn Gln Val Phe Gly Asn Gly Pro Val
Thr Pro Glu Lys Ile Glu Gln Leu Arg Tyr Cys Gln His Val Leu
                                     325
Cys Glu Thr Val Arg Thr Ala Lys Leu Thr Pro Val Ser Ala Gln
                335
                                    340
Leu Gln Asp Ile Glu Gly Lys Ile Asp Arg Phe Ile Ile Pro Arg
Glu Thr Leu Val Leu Tyr Ala Leu Gly Val Val Leu Gln Asp Pro
                365
Asn Thr Trp Pro Ser Pro His Lys Phe Asp Pro Asp Arg Phe Asp
                                     385
                                                         390
Asp Glu Leu Val Met Lys Thr Phe Ser Ser Leu Gly Phe Ser Gly
                                     400
                                                         405
Thr Gln Glu Cys Pro Glu Leu Arg Phe Ala Tyr Met Val Thr Thr
                                                         420
                                     415
Val Leu Leu Ser Val Leu Val Lys Arg Leu His Leu Leu Ser Val
                425
                                     430
Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser
                                     445
                440
Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr
                455
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## <400> 213

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<sup>&</sup>lt;210> 213

<sup>&</sup>lt;211> 759

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

agctgtcact gaaatggett tattegteac egtetttggg etgaaaaaga 500 aaccettetg attacettea tgaegggaac etaaggaega agcetacagg 550 ggeaagggee gettegtatt eetggaagaa ggaaggeata ggetteggtt 600 tteeetegg aaactgette tgetggagga tatgtgttgg aataattaeg 650 tettgagtet gggattatee geattgtatt tagtgetttg taataaaata 700 tgttttgtag taacattaag acttatatae agttttaggg gacaattaaa 750 aaaaaaaaa 759

<210> 214

<211> 140

<212> PRT

<213> Homo sapiens

<400> 214

Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu
1 5 10 15

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp 20 25 30

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu
35 40 45

Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
50 55 60

Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val
65 70 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His 80 85 90

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp 95 100 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu 110 115 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu 125 130 135

Lys Lys Lys Pro Phe 140

<210> 215

<211> 697

<212> DNA

<213> Homo sapiens

<400> 215

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#### <400> 216

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1		_	_	5					10					15

Leu Arg Leu Gly Ala Ala Gln Glu Thr Glu Asp Pro Ala Cys Cys
20 25 30

Ser Pro Ile Val Pro Arg Asn Glu Trp Lys Ala Leu Ala Ser Glu 35 40 45

Cys Ala Gln His Leu Ser Leu Pro Leu Arg Tyr Val Val Val Ser 50 55 60

His Thr Ala Gly Ser Ser Cys Asn Thr Pro Ala Ser Cys Gln Gln
65 70 75

Gln Ala Arg Asn Val Gln His Tyr His Met Lys Thr Leu Gly Trp 80 85 90

Cys Asp Val Gly Tyr Asn Phe Leu Ile Gly Glu Asp Gly Leu Val

Tyr Glu Gly Arg Gly Trp Asn Phe Thr Gly Ala His Ser Gly His
110 115 120

<sup>&</sup>lt;210> 216

<sup>&</sup>lt;211> 196

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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Leu Trp Asn Pro Met 125 Ser Ile Gly Ile Ser Phe Met Gly Asn Tyr 135

Met Asp Arg Val Pro 140 Thr Pro Gln Ala Ile Arg Ala Ala Gln Gly 150

Leu Leu Ala Cys Gly Val Ala Gln Gly Ala Leu Arg Ser Asn Tyr 165

Val Leu Lys Gly His Arg Asp Val Gln Arg Thr Leu Ser Pro Gly 180

Asn Gln Leu Tyr His Leu Ile Gln Asn Trp Pro His Tyr Arg Ser 195
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Pro

<210> 217

<211> 1871

<212> DNA

<400> 217

<213> Homo sapiens

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gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000
aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050
ggetetetgt geageeteae agggetttge caeggageea eagagagatg 1100
ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150
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gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250
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cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550
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Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala
Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro
Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe
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Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
                                    115
Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln
                                    130
His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro
Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile
                155
Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu
                                    175
Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro
                                    190
Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp
                200
                                    205
Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe
Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr
Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly
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<sup>&</sup>lt;211> 2065

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<213> Homo sapiens

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Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp 35 40 45

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Pro Leu
50 55 60

Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala 65 70 75

Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr 80 85 90

Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe 95 100 105

Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr 110 115 120

Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile 125 130 135

Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe 140 . 145 150

Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val 155 160 165

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<211> 257

<212> PRT

<213> Homo sapiens

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Leu Leu Ile Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile 50 55 60

Asp Asn Lys Asp Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly
65 70 75

Ala Phe Val Ser Val Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr 80 85 90

Tyr Lys Leu Leu Lys Lys Ala Ser Glu Gly Leu Lys Ser Ile Asn 95 100 105

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Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala Phe Met Thr Leu Val
Ile Ile Leu Leu His Val Phe Trp Gly Ile Val Phe Phe Asp Gly
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Cys Glu Lys Lys Lys Trp Gly Ile Leu Leu Ile Val Leu Leu Thr
His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr Tyr Gly
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Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly Thr
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                215
Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu
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<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

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Glu Leu Val Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn 50 55 60

Lys Gly Ala Pro Leu Leu Phe Val Val Arg Gln Lys Glu Ala Val

Val Ser Phe Gln Val Pro Leu Ile Leu Arg Gly Met Phe Gln Arg 95 100 105

Lys Tyr Leu Tyr Gln Lys Val Glu Arg Thr Leu Cys Gln Pro Pro 110 115 120

Thr Lys Asn Glu Ser Glu Ile Gln Phe Phe Tyr Val Asp Val Ser

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Thr	Thr	Ala	Ala	Gln 170	Pro	Gln	Tyr	Phe	Lys 175	Tyr	Glu	Phe	Pro	Glu 180
Gly	Val	Asp	Ser	Val 185	Ile	Val	Lys	Val	Thr 190	Ser	Asn	Ĺys	Ala	Phe 195
Pro	Cys	Ser	Val	Ile 200	Ser	Ile	Gln	Asp	Val 205	Leu	Cys	Pro	Val	Tyr 210
Asp	Leu	Asp	Asn	Asn 215	Val	Ala	Phe	Ile	Gly 220	Met	Tyr	Gln	Thr	Met 225
Thr	Lys	Lys	Ala	Ala 230	Ile	Thr	Val	Gln	Arg 235	Lys	Asp	Phe	Pro	Ser 240
Asn	Ser	Phe	Tyr	Val 245	Val	Val	Val	Val	Lys 250	Thr	Glu	Asp	Gln	Ala 255
Cys	Gly	Gly	Ser	Leu 260	Pro	Phe	Tyr	Pro	Phe 265	Ala	Glu	Asp	Glu	Pro 270
Val	Asp	Gln	Gly	His 275	Arg	Gln	Lys	Thr	Leu 280	Ser	Val	Leu	Val	Ser 285
Gln	Ala	Val	Thr	Ser 290	Glu	Ala	Tyr	Val	Ser 295	Gly	Met	Leu	Phe	Cys 300
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Ile	Asp	Arg	Ala	Cys 335	Pro	Glu	Ser	Gly	His 340	Pro	Arg	Val	Leu	Ala 345
Asp	Ser	Phe	Pro	Gly 350	Ser	Ser	Pro	Tyr	Glu 355	Gly	Tyr	Asn	Tyr	Gly 360
Ser	Phe	Glu	Asn	Val 365	Ser	Gly	Ser	Thr	Asp 370	Gly	Leu	Val	Asp	Ser 375
Ala	Gly	Thr	Gly	Asp 380		Ser	Tyr	Gly	Tyr 385	Gln	Gly	Arg	Ser	Phe 390
Glu	Pro	Val	Gly	Thr 395	Arg	Pro	Arg	Val	Asp 400	Ser	Met	Ser	Ser	Val 405
Glu	Glu	Asp	Asp	Tyr	Asp	Thr	Leu	Thr	Asp	Ile	Asp	Ser	Asp	Lys

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Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	ļle	Tyr	Phe 450
Trp	Asn	Ile	Ala	Thr 455	Ile	Ala	Val	Phe	Tyr 460	Ala	Leu	Pro	Val	Val 465
Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
Gln	Asp	Ile	Суѕ	Tyr 485	Tyr	Asn	Phe	Leu	Cys 490	Ala	His	Pro	Leu	Gly 495
Asn	Leu	Ser	Ala	Phe 500	Asn	Asn	Ile	Leu	Ser 505	Asn	Leu	Gly	Tyr	Ile 510
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Cys	Gly	Ile	Pro	Lys 545	His	Phe	Gly	Leu	Phe 550	Tyr	Ala	Met	Gly	Thr 555
Ala	Leu	Met	Met	Glu 560	Gly	Leu	Leu	Ser	Ala 565	Cys	Tyr	His	Val	Cys 570
Pro	Asn	Tyr	Thr	Asn 575	Phe	Gln	Phe	Asp	Thr 580	Ser	Phe	Met	Tyr	Met 585
Ile	Ala	Gly	Leu	Суs 590	Met	Leu	Lys	Leu	Tyr 595	Gln	Lys	Arg	His	Pro 600
Asp	Ile	Asn	Ala	Ser 605	Ala	Tyr	Ser	Ala	Tyr 610	Ala	Суз	Leu	Ala	Ile 615
Val	Ile	Phe	Phe	Ser 620		Leu	Gly	Val	Val 625	Phe	Gly	Lys	Gly	Asn 630
Thr	Ala	Phe	Trp	Ile 635		Phe	Ser	Ile	Ile 640	His	Ile	Ile	Ala	Thr 645
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Asp	Ser	Gly	Ile	Phe 665		Arg	Ile	Leu	His 670	Val	Leu	Tyr	Thr	Asp 675
Cys	Ile	Arg	Gln	Cys 680		Gly	Pro	Leu	Tyr 685	Val	Asp	Arg	Met	Val 690
Leu	Leu	Val	. Met	Gly	Asn	Val	Ile	Asn	Trp	Ser	Leu	Ala	Ala	Tyr

700 705 695 Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile 730 Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp 795 His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser 805 800 Phe Leu Val Leu Leu Thr Leu Asp Asp Leu Asp Thr Val Gln 815 Arg Asp Lys Ile Tyr Val Phe

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Leu Pro Arg Glu Gly Ala Glu Gly Gln Ile Val Leu Ser Gly Asp 50 55 60

Ser Gly Lys Ala Thr Glu Gly Pro Phe Ala Met Asp Pro Asp Ser
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<sup>&</sup>lt;210> 229

<sup>&</sup>lt;211> 807

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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Leu	Trp	Gly	Pro	Gln 110	Pro	Val	Leu	Val	His 115	Val	Lys	Asp	Glu	Asn 120
Asp	Gln	Val	Pro	His 125	Phe	Ser	Gln	Ala	Ile 130	Tyr	Arg	Ala	Arg	Leu 135
Ser	Arg	Gly	Thr	Arg 140	Pro	Gly	Ile	Pro	Phe 145	Leu	Phe	Leu	Glu	Ala 150
Ser	Asp	Arg	Asp	Glu 155	Pro	Gly	Thr	Ala	Asn 160	Ser	Asp	Leu	Arg	Phe 165
His	Ile	Leu	Ser	Gln 170	Ala	Pro	Ala	Gln	Pro 175	Ser	Pro	Asp	Met	Phe 180
Gln	Leu	Glu	Pro	Arg 185	Leu	Gly	Ala	Leu	Ala 190	Leu	Ser	Pro	Lys	Gly 195
Ser	Thr	Ser	Leu	Asp 200	His	Ala	Leu	Glu	Arg 205	Thr	Tyr	Gln	Leu	Leu 210
Val	Gln	Val	Lys	Asp 215	Met	Gly	Asp	Gln	Ala 220	Ser	Gly	His	Gln	Ala 225
Thr	Ala	Thr	Val	Glu 230	Val	Ser	Ile	Ile	Glu 235	Ser	Thr	Trp	Val	Ser 240
Leu	Glu	Pro	Ile	His 245	Leu	Ala	G <b>l</b> u	Asn	Leu 250	Lys	Va <sub>.</sub> l	Leu	Tyr	Pro 255
His	His	Met	Ala	Gln 260	Val	His	Trp	Ser	Gly 265	Gly	Asp	Val	His	Tyr 270
His	Leu	Glu	Ser	His 275	Pro	Pro	Gly	Pro	Phe 280	Glu	Val	Asn	Ala	Glu 285
Gly	Asn	Leu	Tyr	Val 290	Thr	Arg	Glu	Leu	Asp 295	Arg	Glu	Ala	Gln	Ala 300
Glu	Tyr	Leu	Leu	Gln 305		Arg	Ala	Gln	Asn 310		His	Gly	Glu	Asp 315
Tyr	Ala	Ala	Pro	Leu 320		Leu	His	Val	Leu 325		Met	Asp	Glu	Asn 330
Asp	Asn	Val	Pro	Ile 335		Pro	Pro	Arg	Asp 340		Thr	Val	Ser	Ile 345
Pro	Glu	Leu	Ser	Pro 350		Gly	Thr	Glu	Val 355		Arg	Leu	Ser	Ala 360
C1.	700	ν <b>Δ</b> Ιο	Aen	Δ1 a	Pro	G1v	Ser	Pro	Asn	Ser	His	Val	Val	Tvr

				365					370					375
Gln	Leu	Leu	Ser	Pro 380	Glu	Pro	Glu	Asp	Gly 385	Val	Glu	Gly	Arg	Ala 390
Phe	Gln	Val	Asp	Pro 395	Thr	Ser	Gly	Ser	Val 400	Thr	Leu	Gly	Val	Leu 405
Pro	Leu	Arg	Ala	Gly 410	Gln	Asn	Ile	Leu	Leu 415	Leu	Val	Leu	Ala	Met 420
Asp	Leu	Ala	Gly	Ala 425	Glu	Gly	Gly	Phe	Ser 430	Ser	Thr	Суз	Glu	Val 435
Glu	Val	Ala	Val	Thr 440	Asp	Ile	Asn	Asp	His 445	Ala	Pro	Glu	Phe	Ile 450
Thr	Ser	Gln	Ile	Gly 455	Pro	Ile	Ser	Leu	Pro 460	Glu	Asp	Val	Glu	Pro 465
Gly	Thr	Leu	Val	Ala 470	Met	Leu	Thr	Ala	Ile 475	Asp	Ala	Asp	Leu	Glu 480
Pro	Ala	Phe	Arg	Leu 485	Met	Asp	Phe	Ala	Ile 490	Glu	Arg	Gly	Asp	Thr 495
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Arg	Leu	Arg	Leu	Cys 515	Lys	Asn	Leu	Ser	Tyr 520	Glu	Ala	Ala	Pro	Ser 525
His	Glu	Val	Val	Val 530	Val	Val	Gln	Ser	Val 535	Ala	Lys	Leu	Val	Gly 540
Pro	Gly	Pro	Gly	Pro 545	Gly	Ala	Thr	Ala	Thr 550	Val	Thr	Val	Leu	Val 555
Glu	Arg	Val	Met	Pro 560	Pro	Pro	Lys	Leu	Asp 565	Gln	Glu	Ser	Tyr	Glu 570
Ala	Ser	Val	Pro	Ile 575	Ser	Ala	Pro	Ala	Gly 580		Phe	Leu	Leu	Thr 585
Ile	Gln	Pro	Ser	Asp 590		Ile	Ser	Arg	Thr 595		Arg	Phe	Ser	Leu 600
Val	Asn	Asp	Ser	Glu 605		Trp	Leu	Cys	Ile 610	Glu	Lys	Phe	Ser	Gly 615
Glu	Val	His	Thr	Ala 620		Ser	Leu	Gln	Gly 625	Ala	Gln	Pro	Gly	Asp 630
Thr	Tyr	Thr	. Val	Leu 635		Glu	ı Ala	Gln	Asp 640		Ala	Leu	Thr	Leu 645
Ala	Pro	val	. Pro	Ser	Gln	Tyr	Leu	Cys	Thr	Pro	Arg	Gln	Asp	His

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Leu Thr Leu Ala Leu His Trp Val Glu Pro Arg Glu His Ile Ile
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Pro Val Val Val Ser His Asn Ala Gln Met Trp Gln Leu Leu Val
Arg Val Ile Val Cys Arg Cys Asn Val Glu Gly Gln Cys Met Arg
Lys Val Gly Arg Met Lys Gly Met Pro Thr Lys Leu Ser Ala Val
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                                     760
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<212> PRT

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Val Arg Asn Gly Asp Glu Ile Ser Lys Leu Ser Gln Leu Val Asn 35 40 45

Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met 95 100 105

Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr 110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130 135

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly
140 145 150

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile 170 175 180

His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala 185 190 195

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Ile	Leu	Glu	Lys	Met 215	Asp	Ile	Phe	Leu	Leu 220	Pro	Val	Ala	Asn	Pro 225
Asp	Gly	Tyr	Val	Tyr 230	Thr	Gln	Thr	Gln	Asn 235	Arg	Leu	Trp	Arg	Lys 240
Thr	Arg	Ser	Arg	Asn 245	Pro	Gly	Ser	Ser	Cys 250	Ile	Gly	Ala	Asp	Pro 255
Asn	Arg	Asn	Trp	Asn 260	Ala	Ser	Phe	Ala	Gly 265	Lys	Gly	Ala	Ser	Asp 270
Asn	Pro	Cys	Ser	Glu 275	Val	Tyr	His	Gly	Pro 280	His	Ala	Asn	Ser	Glu 285
Val	Glu	Val	Lys	Ser 290	Val	Val	Asp	Phe	Ile 295	Gln	Lys	His	Gly	Asn 300
Phe	Lys	Gly	Phe	Ile 305	Asp	Leu	His	Ser	Tyr 310	Ser	Gln	Leu	Leu	Met 315
Tyr	Pro	Tyr	Gly	Tyr 320	Ser	Val	Lys	Lys	Ala 325	Pro	Asp	Ala	Glu	Glu 330
Leu	Asp	Lys	Val	Ala 335	Arg	Leu	Ala	Ala	Lys 340	Ala	Leu	Ala	Ser	Val 345
Ser	Gly	Thr	Glu	Tyr 350	Gln	Val	Gly	Pro	Thr 355	Cys	Thr	Thr	Val	Туг 360
Pro	Ala	Ser	Gly	Ser 365	Ser	Ile	Asp	Trp	Ala 370	Tyr	Asp	Asn	Gly	Ile 375
Lys	Phe	Ala	Phe	Thr 380	Phe	Glu	Leu	Arg	Asp 385	Thr	Gly	Thr	Tyr	Gly 390
Phe	Leu	Leu	Pro	Ala 395		Gln	Ile	Ile	Pro 400	Thr	Ala	Glu	Glu	Thr 405
Trp	Leu	Gly	Leu	Lys 410		Ile	Met	Glu	His 415	Val	Arg	Asp	Asn	Leu 420

Tyr

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tgttccaaaa tggcatctta cctttatgga gtactctttg ctgttggcct 100

<sup>&</sup>lt;210> 235

<sup>&</sup>lt;211> 1743

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 235

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<212> PRT

<213> Homo sapiens

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Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr 35 40 45

Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val $50 \hspace{1cm} 55 \hspace{1cm} 60 \hspace{1cm}$ 

Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val 65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr 80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr  $95\,$ 

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 130

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly
140 145 150

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp 185 190 195

Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala 200 205 210

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His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu Asn
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Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe
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Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala
Leu Ser Ala Arg Thr Leu Ile Lys Trp Ser His Ser Leu Gln Lys
                290
Arg Trp Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser
                305
Tyr Asn Leu Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Ala
                                     325
                320
Phe Asp Lys Asn Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser
                                     340
Leu Gln Val Ser Lys Ala Thr His Lys Ala Val Leu Asp Val Ser
                                     355
                350
Glu Glu Gly Thr Glu Ala Thr Ala Ala Thr Thr Lys Phe Ile
                                     370
                365
Val Arg Ser Lys Asp Gly Pro Ser Tyr Phe Thr Val Ser Phe Asn
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Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val
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Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala 80 85 90

Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala 95 100 105

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Thr	Asn	Ser	Glu	Ser 125	Ser	Thr	Pro	Ser	Ser 130	Gly	Ala	Ser	Thr	Val 135
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Thr	Asn	Ser	Glu	Ser 350		Thr	Pro	Ser	Ser 355		Ala	Asn	Thr	Ala 360
Thr	: Asn	Ser	Glu	Ser 365		Thr	Thr	Ser	Ser 370		Ala	Asn	Thr	Ala 375
Thr	: Asn	Ser	Glu	Ser 380		Thr	. Val	Ser	Ser 385		Ala	Ser	Thr	Ala 390

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Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe
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Lys Val Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg
35 40 45

Glu Val Gly Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His  $50 \hspace{1cm} 55 \hspace{1cm} 60$ 

Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met
65 70 75

Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val Gln Gly Leu 80 85 90

Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His Gly Ile 95 100 105

Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val Asn 110 115 120

Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln 125 130 135

Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys 140 145 150

Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu 155 160 165

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala 170 175 180

Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser 185 190 195

Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser 200 205 210

Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly

225 215 220 Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg 235 Ser Val Ala Asn Ile Met Pro 245 <210> 249 <211> 23 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 249 caatatgcat cttgcacgtc tgg 23 <210> 250 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 250 aagettetet getteettte etge 24 <210> 251 <211> 43 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe tgaccccatt gagaaggtca ttgaagggat caaccgaggg ctg 43 <210> 252 <211> 3781 <212> DNA <213> Homo sapiens <400> 252 ctccgggtcc ccaggggctg cgccgggccg gcctggcaag ggggacgagt 50 cagtggacac tccaggaaga gcggccccgc ggggggcgat gaccgtgcgc 100 tgaccctgac tcactccagg tccggaggcg ggggcccccg gggcgactcg 150

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<212> PRT

<213> Homo sapiens

<400> 253

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Trp Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu 20 25 30

Leu Leu Leu Leu Gln Pro Pro Pro Pro Thr Trp Ala Leu Ser 35 40 45

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Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu 65 70 75

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu 80 85 90

Phe Ala Leu Ser Ser Asn Leu Ser Phe Leu Pro Gly Gly Glu Tyr 95 100 105

Gln Glu Leu Leu Trp Gly Ala Asp Ala Glu Lys Lys Gln Gln Cys 110 115 120

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Phe	Thr	Met	Lys	Asp 365	Val	Gln	Arg	Val	Phe 370	Ser	Gly	Leu	Tyr	Lys 375
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Cys	Ser	Leu	Tyr	Arg 530	Ser	Cys	Gly	Asp	Cys 535	Leu	Leu	Ala	Arg	Asp 540
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Phe	Gln	Pro	Asn	Thr 605	Val	Asn	Thr	Leu	Ala 610	Cys	Pro	Leu	Leu	Ser 615
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Glu	Gly	Phe	Gln	Gln 665		Val	Ala	Ser	Туr 670	Cys	Pro	Glu	Val	Val 675
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Pro Leu Asp His Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro
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Ala	Leu	Glu	Pro	Gly 215	Glu	Asn	Phe	Cys	Met 220	Gly	Gly	Pro	Gly	Val 225	
Ile	Met	Ser	Arg	Glu 230	Val	Leu	Arg	Arg	Met 235	Val	Pro	His	Ile	Gly 240	
Lys	Cys	Leu	Arg	Glu 245	Met	Tyr	Thr	Thr	His 250	Glu	Asp	Val	Glu	Val 255	
Gly	Arg	Cys	Val	Arg 260		Phe	Ala	Gly	Val 265	Gln	Cys	Val	Trp	Ser 270	
Tyr	· Glu	Met	Arg	Gln	Leu	Phe	Tyr	Glu	Asn	Tyr	Glu	Gln	Asn	Lys	

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Ile	Thr	Leu	His	Pro 305	Asn	Lys	Asn	Pro	Pro 310	Tyr	Gln	Tyr	Arg	Leu 315
His	Ser	Tyr	Met	Leu 320	Ser	Arg	Lys	Ile	Ser 325	Glu	Leu	Arg	His	Arg 330
Thr	Ile	Gln	Leu	His 335	Arg	Glu	Ile	Val	Leu 340	Met	Ser	Lys	Tyr	Ser 345
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Ser	Phe	Met	Arg	Phe 365	Gln	Pro	Arg	Gln	Arg 370	Glu	Glu	Ile	Leu	Glu 375
Trp	Glu	Phe	Leu	Thr 380	Gly	Lys	Tyr	Leu	Tyr 385	Ser	Ala	Val	Asp	Gly 390
Gln	Pro	Pro	Arg	Arg 395	Gly	Met	Asp	Ser	Ala 400	Gln	Arg	Glu	Ala	Leu 405
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Ser Lys	Ala S	er Thr 770		Gly	Ser	Thr	Gln 775	Gln	Leu	Ala	Glu	Met 780
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Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

Pro Lys His Val Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys
65 70 75

Glu Leu Val Thr His Gly Asp Ala Ser Thr Glu Asn Asp Val Leu

## lifiazas, leazron

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Pro Ala Ala	Lys Gl	Glu	Ala	Pro	Arg 160	Met	Leu	Pro	Val	Val 165
Thr Glu Ser	Ser Th	Pro	Tyr	Val	Thr 175	Ser	Tyr	Lys	Ser	Pro 180
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Pro Glu Glu	Phe Gl 21	His	Pro	Glu	Ser 220	Trp	Àsn	Asn	Asp	Asp 225
Ile Leu Lys	Lys I1 23	Asp	Ile	Asn	Ser 235	Gln	Val	Gln	Gln	Ala 240
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Ala Ser Lys	Asp Hi 26	Lys	Arg	Ser	Leu 265	Ala	Leu	Ala	Ala	Ala 270
Ala Glu His	Lys Le 27	Thr	Met	Tyr	Lys 280	Ser	Gln	Leu	Leu	Pro 285
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Asn Met Leu	Cys As	: Arg	Ser	Lys	Leu 310	Туr	Glu	Tyr	Leu	Asp 315
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## <213> Homo sapiens

<400> 266 cggctcgagc ggctcgagtg aagagcctct ccacggctcc tgcgcctgag 50 acagetggee tgacetecaa ateatecate cacecetget gteatetgtt 100 ttcatagtgt gagatcaacc cacaggaata tccatggctt ttgtgctcat 150 tttggttctc agtttctacg agctggtgtc aggacagtgg caagtcactg 200 gaccgggcaa gtttgtccag gccttggtgg gggaggacgc cgtgttctcc 250 tgctccctct ttcctgagac cagtgcagag gctatggaag tgcggttctt 300 caggaatcag ttccatgctg tggtccacct ctacagagat ggggaagact 350 gggaatctaa gcagatgcca cagtatcgag ggagaactga gtttgtgaag 400 gactccattg caggggggcg tgtctctcta aggctaaaaa acatcactcc 450 ctcggacatc ggcctgtatg ggtgctggtt cagttcccag atttacgatg 500 aggaggccac ctgggagctg cgggtggcag cactgggctc acttcctctc 550 atttccatcg tgggatatgt tgacggaggt atccagttac tctgcctgtc 600 ctcaggctgg ttcccccagc ccacagccaa gtggaaaggt ccacaaggac 650 aggatttgtc ttcagactcc agagcaaatg cagatgggta cagcctgtat 700 gatgtggaga tetecattat agtecaggaa aatgetggga geatattgtg 750 ttccatccac cttgctgagc agagtcatga ggtggaatcc aaggtattga 800 taggagagac gtttttccag ccctcacctt ggcgcctggc ttctatttta 850 ctcgggttac tctgtggtgc cctgtgtggt gttgtcatgg ggatgataat 900 tgttttcttc aaatccaaag ggaaaatcca ggcggaactg gactggagaa 950 gaaagcacgg acaggcagaa ttgagagacg cccggaaaca cgcagtggag 1000 gtgactetgg atccagagae ggeteaeceg aagetetgeg tttetgatet 1050 gaaaactgta acccatagaa aagctcccca ggaggtgcct cactctgaga 1100 agagatttac aaggaagagt gtggtggctt ctcagggttt ccaagcaggg 1150 agacattact gggaggtgga cgtgggacaa aatgtagggt ggtatgtggg 1200 agtgtgtcgg gatgacgtag acagggggaa gaacaatgtg actttgtctc 1250 ccaacaatgg gtattgggtc ctcagactga caacagaaca tttgtatttc 1300 acattcaatc cccattttat cagectecce eccageacce etectacaeg 1350 agtaggggtc ttcctggact atgagggtgg gaccatctcc ttcttcaata 1400 caaatgacca gtcccttatt tataccctgc tgacatgtca gtttgaaggc 1450 ttgttgagac cctatatcca gcatgcgatg tatgacgagg aaaaggggac 1500 teceatatte atatgtecag tgteetgggg atgagacaga gaagaceetg 1550. cttaaagggc cccacaccac agacccagac acagccaagg gagagtgctc 1600 ccgacaggtg gccccagctt cctctccgga gcctgcgcac agagagtcac 1650 gcccccact ctcctttagg gagctgaggt tcttctgccc tgagccctgc 1700 agcagcggca gtcacagctt ccagatgagg ggggattggc ctgaccctgt 1750 gggagtcaga agccatggct gccctgaagt ggggacggaa tagactcaca 1800 ttaggtttag tttgtgaaaa ctccatccag ctaagcgatc ttgaacaagt 1850 cacaacetee caggeteete atttgetagt caeggacagt gatteetgee 1900 tcacaggtga agattaaaga gacaacgaat gtgaatcatg cttgcaggtt 1950 tgagggcaca gtgtttgcta atgatgtgtt tttatattat acattttccc 2000 accataaact ctgtttgctt attccacatt aatttacttt tctctatacc 2050 aaatcaccca tggaatagtt attgaacacc tgctttgtga ggctcaaaga 2100 ataaagagga ggtaggattt ttcactgatt ctataagccc agcattacct 2150 gataccaaaa ccaggcaaag aaaacagaag aagaggaagg aaaactacag 2200 gtccatatcc ctcattaaca cagacacaaa aattctaaat aaaattttaa 2250 caaattaaac taaacaatat atttaaagat gatatataac tactcagtgt 2300 ggtttgtccc acaaatgcag agttggttta atatttaaat atcaaccagt 2350 aaa 2403

<210> 267

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val

Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala 20 25 30

Leu Val Gly Glu Asp Ala Val Phe Ser Cys Ser Leu Phe Pro Glu

				35					40					45
Thr	Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55	Phe	Arg	Asn	Gln	Phe 60
His	Ala	Val	Val	His 65	Leu	Tyr	Arg	Asp	Gly 70	Glu	Asp	Trp	Glu	Ser 7.5
Lys	Gln	Met	Pro	Gln 80	Tyr	Arg	Gly	Arg	Thr 85	Glu	Phe	Val	Lys	Asp 90
Ser	Ile	Ala	Gly	Gly 95	Arg	Val	Ser	Leu	Arg 100	Leu	Lys	Asn	Ile	Thr 105
Pro	Ser	Asp	Ile	Gly 110	Leu	Tyr	Gly	Cys	Trp 115	Phe	Ser	Ser	Gln	Ile 120
Tyr	Asp	Glu	Glu	Ala 125	Thr	Trp	Glu	Leu	Arg 130	Val	Ala	Ala	Leu	Gly 135
Ser	Leu	Pro	Leu	Ile 140	Ser	Ile	Val	Gly	Tyr 145	Val	Asp	Gly	Gly	Ile 150
Gln	Leu	Leu	Cys	Leu 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Gln	Pro	Thr	Ala 165
Lys	Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Ser	Asp	Ser	Arg 180
Ala	Asn	Ala	Asp	Gly 185	Tyr	Ser	Leu	Tyr	Asp 190	Val	Glu	Ile	Ser	Ile 195
Ile	Val	Gln	Glu	Asn 200	Ala	Gly	Ser	Ile	Leu 205	Cys	Ser	Ile	His	Leu 210
Ala	Glu	Gln	Ser	His 215	Glu	Val	Glu	Ser	Lys 220	Val	Leu	Ile	Gly	Glu 225
Thr	Phe	Phe	Gln	Pro 230	Ser	Pro	Trp	Arg	Leu 235	Ala	Ser	Ile	Leu	Leu 240
Gly	Leu	Leu	Cys	Gly 245		Leu	Cys	Gly	Val 250	Val	Met	Gly	Met	Ile 255
Ile	Val	Phe	Phe	Lys 260		Lys	Gly	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp	Arg	Arg	Lys	His 275		Gln	Ala	Glu	Leu 280		Asp	Ala	Arg	Lys 285
His	Ala	Val	Glu	Val 290		Leu	Asp	Pro	Glu 295		Ala	His	Pro	Lys 300
Leu	Cys	: Val	Ser	Asp 305		Lys	Thr	Val	Thr 310		Arg	Lys	Ala	Pro 315
C1 =	Clas		Dro	uic	Sor	- Glu	T.VS	Ara	Phe	Thr	Ara	Lvs	Ser	Val

325 330 320 Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp 355 350 Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr 385 Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr 400 Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp 465 Gly

<210> 268

<211> 2103

<212> DNA

<213> Homo sapiens

<400> 268

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ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850 catgactatg atatttetet tgcagagett tetagecetg tteeetacae 900 aaatgcagta catagagttt gtctccctga tgcatcctat gagtttcaac 950 caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150 ggaggaccac tggttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagctc tgttccgcac gtaagcatcc tgcttctgcc agatcaactc 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacage etgtatteat ttgtteteta gaagttttgt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcattcca aacaactact 1950 atgataaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000 caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatattat 2050 ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100 cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys
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Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile 20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr
50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu 110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val 140 145 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln 200 205 210

Trp	Asp	Gly	Ser	His 215	Arg	Cys	Gly	Ala	Thr 220	Leu	Ile	Asn	Ala	Thr 225
Trp	Leu	Val	Ser	Ala 230	Ala	His	Cys	Phe	Thr 235	Thr	Tyr	Lys	Asn	Pro 240
Ala	Arg	Trp	Thr	Ala 245	Ser	Phe	Gly	Val	Thr 250	Ile	Lys	Pro	Ser	Lys 255
Met	Lys	Arg	Gly	Leu 260	Arg	Arg	Ile	Ile	Val 265	His	Glu	Lys	Tyr	Lys 270
His	Pro	Ser	His	Asp 275	Tyr	Asp	Ile	Ser	Leu 280	Ala	Glu	Leu	Ser	Ser 285
Pro	Val	Pro	Tyr	Thr 290	Asn	Ala	Val	His	Arg 295	Val	Cys	Leu	Pro	Asp 300
Ala	Ser	Tyr	Glu	Phe 305	Gln	Pro	Gly	Asp	Val 310	Met	Phe	Val	Thr	Gly 315
Phe	Gly	Ala	Leu	Lys 320	Asn	Asp	Gly	Tyr	Ser 325	Gln	Asn	His	Leu	Arg 330
Gln	Ala	Gln	Val	Thr 335	Leu	Ile	Asp	Ala	Thr 340	Thr	Cys	Asn	Glu	Pro 345
Gln	Ala	Tyr	Asn	Asp 350	Ala	Ile	Thr	Pro	Arg 355	Met	Leu	Cys	Ala	Gly 360
Ser	Leu	Glu	Gly	Lys 365	Thr	Asp	Ala	Cys	Gln 370	Gly	Asp	Ser	Gly	Gly 375
Pro	Leu	Val	Ser	Ser 380		Ala	Arg	Asp	Ile 385	Trp	Tyr	Leu	Ala	Gly 390
Ile	Val	Ser	Trp	Gly 395		Glu	Cys	Ala	Lys 400	Pro	Asn	Lys	Pro	Gly 405
Val	Tyr	Thr	Arg	Val 410		Ala	Leu	Arg	Asp 415	Trp	Ile	Thr	Ser	Lys 420
Thr	Gly	Ile												

<sup>&</sup>lt;210> 270

<sup>&</sup>lt;211> 1170

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 270
gtcgaaggtt ataaaagctt ccagccaaac ggcattgaag ttgaagatac 50
aacctgacag cacagcctga gatcttgggg atccctcagc ctaacaccca 100
cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150

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catgctgggc tetecetgce ttetgtgget cetggeegtg acettettgg 200
ttcccagage teageeettg geceeteaag aetttgaaga agaggaggea 250
gatgagactg agacggcgtg gccgcctttg ccggctgtcc cctgcgacta 300
cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350
ggccggcggc ctgcctgtgc ccaggactct ccagcccgc ccagccgccc 400
gacccgccgc gcatgggaga agtgcgcatt gcggccgaag agggccgcgc 450
agtggtccac tggtgtgccc ccttctcccc ggtcctccac tactggctgc 500
tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550
acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600
cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650
ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700
ageegeettg eggtgeegee caaceeege actetggtee aegeggeegt 750
cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800
acttetgeet gegegatege tggggetgee egeegeegage egeegeega 850
geogeagggg egetetgaaa ggggeetggg ggeatetegg geacagaeag 900
ccccacctgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950
cctccaggga gggctggacg gcgagctggg agccagcccc aggctccagg 1000
gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccggt 1050
acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100
ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150
ttaaaaaaaa aaaaaaaaa 1170
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<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met Leu Gly Ser Pro Cys Leu Leu Trp Leu Leu Ala Val Thr Phe
1 5 10 15

Leu Val Pro Arg Ala Gln Pro Leu Ala Pro Gln Asp Phe Glu Glu 20 25 30

Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala 35 40 45

Val	Pro	Cys	Asp	Туr 50	Asp	His	Cys	Arg	His 55	Leu	Gln	Val	Pro	Cys 60
Lys	Glu	Leu	Gln	Arg 65	Val	Gly	Pro	Ala	Ala 70	Cys	Leu	Cys	Pro	Gly 75
Leu	Ser	Ser	Pro	Ala 80	Gln	Pro	Pro	Asp	Pro 85	Pro	Arg	Met	Gly	Glu 90
Val	Arg	Ile	Ala	Ala 95	Glu	Glu	Gly	Arg	Ala 100	Val	Val	His	Trp	Cys 105
Ala	Pro	Phe	Ser	Pro 110	Val	Leu	His	Tyr	Trp 115	Leu	Leu	Leu	Trp	Asp 120
Gly	Ser	Glu	Ala	Ala 125	Gln	Lys	Gly	Pro	Pro 130	Leu	Asn	Ala	Thr	Val 135
Arg	Arg	Ala	Glu	Leu 140	Lys	Gly	Leu	Lys	Pro 145	Gly	Gly	Ile	Tyr	Val 150
Val	Cys	Val	Val	Ala 155	Ala	Asn	Glu	Ala	Gly 160	Ala	Ser	Arg	Val	Pro 165
Gln	Ala	Gly	Gly	Glu 170	Gly	Leu	Glu	Gly	Ala 175	Asp	Ile	Pro	Ala	Phe 180
Gly	Pro	Cys	Ser	Arg 185	Leu	Ala	Val	Pro	Pro 190	Asn	Pro	Arg	Thr	Leu 195
Val	His	Ala	Ala	Val 200	Gly	Val	Gly	Thr	Ala 205	Leu	Ala	Leu	Leu	Ser 210
Cys	Ala	Ala	Leu	Val 215	Trp	His	Phe	Cys	Leu 220	Arg	Asp	Arg	Trp	Gly 225
Cys	Pro	Arg	Arg	Ala 230		Ala	Arg	Ala	Ala 235	Gly	Ala	Leu		
<210														
<211	> 23	97												

<211> 2397

<212> DNA

<213> Homo sapiens

<400> 272
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cgaagaagtt ccctgccccg atgagccccc gccgtgcgtc cccgactatc 100

cccaggcggg cgtggggcac cgggcccagc gccgacgatc gctgccgttt 150

tgcccttggg agtaggatgt ggtgaaagga tggggcttct cccttacggg 200

gctcacaatg gccagaagaa attccgtgaa gtgtctgcgc tgcctgctct 250

acgccctcaa tctgctcttt tggttaatgt ccatcagtgt gttggcagtt 300

tctgcttgga tgagggacta cctaaataat gttctcactt taactgcaga 350 aacgagggta gaggaagcag tcattttgac ttactttcct gtggttcatc 400 cggtcatgat tgctgtttgc tgtttcctta tcattgtggg gatgttagga 450 tattgtggaa cggtgaaaag aaatctgttg cttcttgcat ggtactttgg 500 aagtttgctt gtcattttct gtgtagaact ggcttgtggc gtttggacat 550 atgaacagga acttatggtt ccagtacaat ggtcagatat ggtcactttg 600. aaagccagga tgacaaatta tggattacct agatatcggt ggcttactca 650 tgcttggaat tttttcaga gagagtttaa gtgctgtgga gtagtatatt 700 tcactgactg gttggaaatg acagagatgg actggccccc agattcctgc 750 tgtgttagag aattcccagg atgttccaaa caggcccacc aggaagatct 800 cagtgacctt tatcaagagg gttgtgggaa gaaaatgtat tcctttttga 850 . gaggaaccaa.acaactgcag gtgctgaggt ttctgggaat ctccattggg 900 gtgacacaaa teetggeeat gatteteace attactetge tetgggetet 950 gtattatgat agaagggagc etgggaçaga ccaaatgatg teettgaaga 1000 atgacaactc tcagcacctg tcatgtccct cagtagaact gttgaaacca 1050 agcctgtcaa gaatctttga acacacatcc atggcaaaca gctttaatac 1100 acactttgag atggaggagt tataaaaaga aatgtcacag aagaaaacca 1150 caaacttgtt ttattggact tgtgaatttt tgagtacata ctatgtgttt 1200 cagaaatatg tagaaataaa aatgttgcca taaaataaca cctaagcata 1250 tactattcta tgctttaaaa tgaggatgga aaagtttcat gtcataagtc 1300 accacctgga caataattga tgcccttaaa atgctgaaga cagatgtcat 1350 acceactgtg tagectgtgt atgaetttta etgaacaeag ttatgttttg 1400 aggcagcatg gtttgattag catttccgca tccatgcaaa cgagtcacat 1450 atggtgggac tggagccata gtaaaggttg atttacttct accaactagt 1500 atataaagta ctaattaaat gctaacatag gaagttagaa aatactaata 1550 acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600 cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650 ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700 <210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

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Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala 20 25 30

Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu 35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile
65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val	Pro	Val	Gln	Trp 125	Ser	Asp	Met	Val	Thr 130	Leu	Lys	Ala	Arg	Met 135
Thr	Asn	Tyr	Gly	Leu 140	Pro	Arg	Tyr	Arg	Trp 145	Leu	Thr	His	Ala	Trp 150
Asn	Phe	Phe	Gln	Arg 155	Glu	Phe	Lys	Cys	Cys 160	Gly	Val	Val	Tyr	Phe 165
Thr	Asp	Trp	Leu	Glu 170	Met	Thr	Glu	Met	Asp 175	Trp	Pro	Pro	Asp	Ser 180
Cys	Cys	Val	Arg	Glu 185	Phe	Pro	Gly	Суѕ	Ser 190	Lys	Gln	Ala	His	Gln 195
Glu	Asp	Leu	Ser	Asp 200	Leu	Tyr	Gln	Glu	Gly 205	Cys	Gly	Lys	Lys	Met 210
Tyr	Ser	Phe	Leu	Arg 215	Gly	Thr	Lys	Gln	Leu 220	Gln	Val	Leu	Arg	Phe 225
Leu	Gly	Ile	Ser	Ile 230	Gly	Val	Thr	Gln	Ile 235	Leu	Ala	Met	Ile	Leu 240
Thr	Ile	Thr	Leu	Leu 245	Trp	Ala	Leu	Tyr	Tyr 250	Asp	Arg	Arg	Glu	Pro 255
Gly	Thr	Asp	Gln	Met 260	Met	Ser	Leu	Lys	Asn 265	Asp	Asn	Ser	Gln	His 270
Leu	Ser	Cys	Pro	Ser 275	Val	Glu	Leu	Leu	Lys 280	Pro	Ser	Leu	Ser	Arg 285
Ile	Phe	Glu	His	Thr 290	Ser	Met	Ala	Asn	Ser 295	Phe	Asn	Thr	His	Phe 300
Glu	Met	Glu	Glu	Leu 305										
	> 27				•									
<211	> 20	63												

<211> 2063 <212> DNA <213> Homo sapiens

<400> 274
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caaggcctgc cctgcactcg ggcctcctcc agccagtgct gaccagggac 100

ttctgacctg ctggccagcc aggacctgtg tggggaggcc ctcctgctgc 150

cttggggtga caatctcagc tccaggctac agggagaccg ggaggatcac 200

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Ile Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr 50 55 60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln 65 70 75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu 80 85 90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu 125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150

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Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser 170 175 180

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Val	Thr	His	Leu	Tyr 140	Thr	Суѕ	Gly	Thr	Phe 145	Ala	Phe	Ser	Pro	Ala 150
Cys	Thr	Phe	Ile	Glu 155	Leu	Gln	Asp	Ser	Tyr 160	Leu	Leu	Pro	Ile	Ser 165

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Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser

190

170

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Pro	Glu	ı Pro	Val	Arg 470		Leu	Glr	ı Lev	Ala 475		Thr	Gln	Gly	Ala 480

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Pro Phe Leu Ile Ala Glu Lys Leu Gly Lys Pro Phe Val Ala Ile

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Leu	Ser	Tyr	Val	Pro 185	Val	Phe	Arg	Ser	Leu 190	Leu	Thr	Asp	His	Met 195
Asp	Phe	Trp	Gly	Arg 200	Val	Lys	Asn	Phe	Leu 205	Met	Phe	Phe	Ser	Phe 210
Cys	Arg	Arg	Gln	Gln 215	His	Met	Gln	Ser	Thr 220	Phe	Asp	Asn	Thr	Ile 225
Lys	Glu	His	Phe	Thr 230	Glu	Gly	Ser	Arg	Pro 235	Val	Leu	Ser	His	Leu 240
Leu	Leu	Lys	Ala	Glu 245	Leu	Trp	Phe	Ile	Asn 250	Ser	Asp	Phe	Ala	Phe 255
Asp	Phe	Ala	Arg	Pro 260	Leu	Leu	Pro	Asn	Thr 265	Val	Tyr	Val	Gly	Gly 270
Leu	Met	Glu	Lys	Pro 275	Ile	Lys	Pro	Val	Pro 280	Gln	Asp	Leu	Glu	Asn 285
Phe	Ile	Ala	Lys	Phe 290	Gly	Asp	Ser	Gly	Phe 295	Val	Leu	Val	Thr	Leu 300
Gly	Ser	Met	Val	Asn 305	Thr	Суѕ	Gln	Asn	Pro 310	Glu	Ile	Phe	Lys	Glu 315
Met	Asn	Asn	Ala	Phe 320	Ala	His	Leu	Pro	Gln 325	Gly	Val	Ile	Trp	Lys 330
Cys	Gln	Cys	Ser	His 335	Trp	Pro	Lys	Asp	Val 340	His	Leu	Ala	Ala	Asn 345
Val	Lys	Ile	Val	Asp 350	Trp	Leu	Pro	Gln	Ser 355	Asp	Leu	Leu	Ala	His 360
Pro	Ser	Ile	Arg	Leu 365	Phe	Val	Thr	His	Gly 370	Gly	Gln	Asn	Ser	Ile 375
Met	Glu	Ala	Ile	Gln 380	His	Gly	Val	Pro	Met 385	Val	Gly	Ile	Pro	Leu 390
Phe	Gly	Asp	Gln	Pro 395	Glu	Asn	Met	Val	Arg 400	Val	Glu	Ala	Lys	Lys 405
Phe	Gly	Val	Ser	Ile 410	Gln	Leu	Lys	Lys	Leu 415	Lys	Ala	Glu	Thr	Leu 420
Ala	Leu	Lys	Met	Lys 425	Gln	Ile	Met	Glu	Asp 430	Lys	Arg	Tyr	Lys	Ser 435
Ala	Ala	Val	Ala	Ala	Ser	Val	Ile	Leu	Arg	Ser	His	Pro	Leu	Ser

440 450 445 Pro Thr Gln Arg Leu Val Gly Trp Ile Asp His Val Leu Gln Thr 455 Gly Gly Ala Thr His Leu Lys Pro Tyr Val Phe Gln Gln Pro Trp 475 His Glu Gln Tyr Leu Phe Asp Val Phe Val Phe Leu Leu Gly Leu 490 Thr Leu Gly Thr Leu Trp Leu Cys Gly Lys Leu Leu Gly Met Ala 500 505 Val Trp Trp Leu Arg Gly Ala Arg Lys Val Lys Glu Thr 515 520 <210> 283 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 283 tgcctttgct cacctacccc aagg 24 <210> 284 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 284 tcaggctggt ctccaaagag aggg 24 <210> 285 <211> 45 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 285 cccaaaqatq tccacctqqc tqcaaatqtq aaaattqtqq actqq 45 <210> 286 <211> 2340 <212> DNA <213> Homo sapiens <400> 286 gggctgttga tttgtggggg attttgaaga gaggaggaat aggaggaagg 50

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<213> Homo sapiens

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Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala
65 70 75

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 Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn
 Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val
 Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala
                                     160
 Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser
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                                     175
Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp Lys Tyr Ser
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ttcccgcggg gccgtgactg ggcgggcttc agccatgaag accctcatag 200
ccgcctactc cggggtcctg cgcggcgagc gtcaggccga ggctgaccgg 250
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<211> 388

<212> PRT

<213> Homo sapiens

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Arg Gln Ala Glu Ala Asp Arg Ser Gln Arg Ser His Gly Gly Pro 20 25 30

Ala Leu Ser Arg Glu Gly Ser Gly Arg Trp Gly Thr Gly Ser Ser 35 40 45

Ile Leu Ser Ala Leu Gln Asp Leu Phe Ser Val Thr Trp Leu Asn 50 55 60

Arg Ser Lys Val Glu Lys Gln Leu Gln Val Ile Ser Val Leu Gln 65 70 75

Trp Val Leu Ser Phe Leu Val Leu Gly Val Ala Cys Ser Ala Ile 80 85 90

Leu Met Tyr Ile Phe Cys Thr Asp Cys Trp Leu Ile Ala Val Leu 95 100 105

Tyr Phe Thr Trp Leu Val Phe Asp Trp Asn Thr Pro Lys Lys Gly 110 115

Gly Arg Arg Ser Gln Trp Val Arg Asn Trp Ala Val Trp Arg Tyr 125 130 135

Phe Arg Asp Tyr Phe Pro Ile Gln Leu Val Lys Thr His Asn Leu 140 145 150

Leu Thr Thr Arg Asn Tyr Ile Phe Gly Tyr His Pro His Gly Ile 155 160 165

Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr Glu Ala Thr Glu 170 175 180

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Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu Ala Thr Leu
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Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu Met Ser
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Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu
                                     220
Ser Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly
Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr
                                     250
Leu Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly
                                     265
Ala Asp Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr
                                     280
Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln
                                     295
Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His
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Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr
Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Ile Pro
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                                     340
Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Thr
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Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu 35 40 45

Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln
50 55 60

Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu
65 70 75

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala

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Trp	Thr	Met	Cys	Glu 110	Arg	Phe	Gly	Val	Leu 115	Gly	Ser	Ser	Lys	Val 120
Leu	Ala	Lys	Lys	Glu 125	Leu	Leu	Tyr	Val	Pro 130	Leu	Ile	Gly	Trp	Thr 135
Trp	Tyr	Phe	Leu	Glu 140	Ile	Val	Phe	Cys	Lys 145	Arg	Lys	Trp	Glu	Glu 150
Asp	Arg	Asp	Thr	Val 155	Val	Glu	Gly	Leu	Arg 160	Arg	Leu	Ser	Asp	Tyr 165
Pro	Glu	Tyr	Met	Trp 170	Phe	Leu	Leu	Tyr	Cys 175	Glu	Gly	Thr	Arg	Phe 180
Thr	Glu	Thr	Lys	His 185	Arg	Val	Ser	Met	Glu 190	Val	Ala	Ala	Ala	Lys 195
Gly	Leu	Pro	Val	Leu 200	Lys	Tyr	His	Leu	Leu 205	Pro	Arg	Thr	Lys	Gly 210
Phe	Thr	Thr	Ala	Val 215	Lys	Cys	Leu	Arg	Gly 220	Thr	Val	Ala	Ala	Val 225
Tyr	Asp	Val	Thr	Leu 230	Asn	Phe	Arg	Gly	Asn 235	Lys	Asn	Pro	Ser	Leu 240
Leu	Gly	Ile	Leu	Tyr 245	Gly	Lys	Lys	Tyr	Glu 250	Ala	Asp	Met	Cys	Val 255
Arg	Arg	Phe	Pro	Leu 260		Asp	Ile	Pro	Leu 265	Asp	Glu	Lys	Glu	Ala 270
Ala	Gln	Trp	Leu	His 275		Leu	Tyr	Gln	Glu 280	Lys	Asp	Ala	Leu	Gln 285
Glu	Ile	Tyr	Asn	Gln 290		Gly	Met	Phe	Pro 295	Gly	Glu	Gln	Phe	Lys 300
Pro	Ala	Arg	, Arg	9 Pro		Thr	Leu	Leu	Asn 310	Phe	Leu	ı Ser	Trp	Ala 315
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Ala	Ser	Gly	y Ser	2 Pro		ı Lev	ıle	. Leu	Thr 340	Phe	e Lev	ı Gly	/ Ph∈	val 345
Gly	Alá	a Ala	a Sei	r Phe		y Val	L Arg	y Arg	g Leu 355	ı Ile	e Gly	y Glu	ı Sei	Leu 360
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gtctggcccc tgccccctg gccagcttca ttgtacatgt ggtgttctct 450 tgtcgttcct gtaatgtggt atgccatggg gtctttgcac aagcctttcc 500 tetttggetg gacactgtte eetgeeeeee ceatactett eetaettaat 550 atgtagtcat cctgcagatt tcaattctaa catcattttc tccagggatc 600 ctggcctgac agaatctcat cttgtttaat gctctcataa gaccacttgt 650 ttcccttttg cagcacttgc cactcagttg tatctttatg tgcgtttgtg 700 qttgtatggg ttgtgtctgt tccccagaat gcccagctct gagctgcgtg 750 agggtcaagg gcattgctgt gcctgccagg tatagtgcct acatgtggtg 800 qqtqctcatq ttttaqaqac taaatqqaqq aggagatqaq gaaaagattg 850 aaatctctca gttcaccaga tggtgtaggg cccagcattg taaattcaca 900 cgttgactgt gcttgtgaat tatctgggga tgcaggtcct gattcagtag 950 qcccaqqttq qqcatctcta acaaactccc acgtgatgct gatgctggtc 1000 ctatgaacta tactaaatag taagaatcta tggagccagg ctgggcatgg 1050 tggctcacac ctatgatccc agcactttgg gaggctgagg caggctgatc 1100 acctggagtc aggatttcaa gactagcctg gccaacatgg tggaacccca 1150 tctgtactaa aaatacacaa attagctggg catggtggca catgcctgta 1200 gtcccagcta cttgggaggc tgaagcaaga gaatcgcttg aacctgggag 1250 geggaggttg cagtgageeg agateaggee actgtattee aaccagggtg 1300 acagagtgag actctatgtc caaaaaaaaa aaaa 1334

<210> 302

<211> 143

<212> PRT

<213> Homo sapiens

## <400> 302

Met His His Ser Leu Gln Cys Pro Gly Ala Ala Thr Arg His Ile 1 5 10 15

His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe 20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly
35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp

75 70 65 Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln 95 Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu 115 Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr 130 Cys Gly Val Leu Leu Ser Phe Leu

<210> 303

<211> 1768

<212> DNA

<213> Homo sapiens

<400> 303 ggetggactg gaacteetgg teccaagtga tecaeeegee teageeteee 50 aaggtgctgt gattataggt gtaagccacc gtgtctggcc tctgaacaac 100 tttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 150 tatgctgtgg tggctagtgc tcctactcct acctacatta aaatctgttt 200 tttgttctct tgtaactagc ctttaccttc ctaacacaga ggatctgtca 250 ctgtggctct ggcccaaacc tgaccttcac tctggaacga gaacagaggt 300 ttetacecae accgtecect egaageeggg gacageetea eettgetgge 350 ctctcgctgg agcagtgccc tcaccaactg tctcacgtct ggaggcactg 400 actegggeag tgeaggtage tgageetett ggtagetgeg gettteaagg 450 tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata 500 ggcgatggct cccactgccc aggcatcagc cttgctgtag tcaatcactg 550 ccctggggcc aggacgggcc gtggacacct gctcagaagc agtgggtgag 600 acatcacgct gcccgcccat ctaacctttt catgtcctgc acatcacctg 650 atccatgggc taatctgaac tctgtcccaa ggaacccaga gcttgagtga 700 getgtggete agaeceagaa ggggtetget tagaecaeet ggtttatgtg 750 acaggacttg cattetectg gaacatgagg gaacgeegga ggaaagcaaa 800 gtggcaggga aggaacttgt gccaaattat gggtcagaaa agatggaggt 850 gttgggttat cacaaggcat cgagtctcct gcattcagtg gacatgtggg 900 ggaagggetg eegatggege atgacaeaet egggaeteae etetggggee 950 atcagacage egttteegee eegateeaeg taccagetge tgaagggeaa 1000 ctgcaggccg atgctctcat cagccaggca gcagccaaaa tctgcgatca 1050 ccagccaggg gcagccgtct gggaaggagc aagcaaagtg accatttctc 1100 ctccctcct tccctctgag aggccctcct atgtccctac taaagccacc 1150 agcaagacat agctgacagg ggctaatggc tcagtgttgg cccaggaggt 1200 cagcaaggcc tgagagctga tcagaagggc ctgctgtgcg aacacggaaa 1250 tgcctccagt aagcacaggc tgcaaaatcc ccaggcaaag gactgtgtgg 1300 ctcaatttaa atcatgttct agtaattgga gctgtcccca agaccaaagg 1350 agctagagct tggttcaaat gatctccaag ggcccttata ccccaggaga 1400 ctttgatttg aatttgaaac cccaaatcca aacctaagaa ccaggtgcat 1450 taagaatcag ttattgccgg gtgtggtggc ctgtaatgcc aacattttgg 1500 gaggccgagg cgggtagatc acctgaggtc aggagttcaa gaccagcctg 1550 gccaacatgg tgaaacccct gtctctacta aaaatacaaa aaaactagcc 1600 aggeatggtg gtgtgtgeet gtateceage tactegggag getgagaeag 1650 gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700 ttcagcctga gcaacacagc gagactctgt ctcagaaaaa ataaaaaaag 1750 aattatggtt atttgtaa 1768

<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser

Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu 20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly
50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro

65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly
95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305 gegggeeege gagteegaga cetgteeeag gageteeage teaegtgace 50 tgtcactgcc tcccgccgcc tcctgcccgc gccatgaccc agccggtgcc 100 ccggctctcc gtgcccgccg cgctggccct gggctcagcc gcactgggcg 150 ccgccttcgc cactggcctc ttcctgggga ggcggtgccc cccatggcga 200 ggccggcgag agcagtgcct gcttcccccc gaggacagcc gcctgtggca 250 gtatettetg agecgeteca tgegggagea eeeggegetg egaageetga 300 ggctgctgac cctggagcag ccgcaggggg attctatgat gacctgcgag 350 caggeceage tettggeeaa eetggegegg eteateeagg eeaagaagge 400 gctggacctg ggcaccttca cgggctactc cgccctggcc ctggccctgg 450 cgctgcccgc ggacgggcgc gtggtgacct gcgaggtgga cgcgcagccc 500 ccggagctgg gacggcccct gtggaggcag gccgaggcgg agcacaagat 550 cgacctccgg ctgaagcccg ccttggagac cctggacgag ctgctggcgg 600 cgggcgaggc cggcacette gacgtggccg tggtggatgc ggacaaggag 650 aactgctccg cctactacga gcgctgcctg cagctgctgc gacccggagg 700 catectegee gteeteagag teetgtggeg egggaaggtg etgeaacete 750 cgaaagggga cgtggcggcc gagtgtgtgc gaaacctaaa cgaacgcatc 800 cggcgggacg tcagggtcta catcagcctc ctgcccctgg gcgatggact 850 caccttggcc ttcaagatct agggctggcc cctagtgagt gggctcgagg 900 gagggttgcc tgggaacccc aggaattgac cctgagtttt aaattcgaaa 950 ataaagtggg gctgggacac aaaaaaaaa aaaaaaaaa 989

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<210> 306
<211> 262
<212> PRT
<213> Homo sapiens
<400> 306
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 Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe
 Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys
 Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser
 Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
 Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
 Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
 Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
 Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
                                     130
 Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
                                     145
                 140
 Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
 Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
                 170
 Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
 Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
 Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
 Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
 Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly
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## Leu Thr Leu Ala Phe Lys Ile 260

<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 307 ccgccgccgc agccgctacc gccgctgcag ccgctttccg cggcctgggc 50 ctctcgccgt cagcatgcca cacgccttca agcccgggga cttggtgttc 100 gctaagatga agggctaccc tcactggcct gccaggatcg acgacatcgc 150 ggatggcgcc gtgaagcccc cacccaacaa gtaccccatc tttttctttg 200 gcacacacga aacagcette etgggaceca aggacetgtt eccetacgae 250 aaatgtaaag acaagtacgg gaagcccaac aagaggaaag gcttcaatga 300 agggctgtgg gagatccaga acaaccccca cgccagctac agcgcccctc 350 cgccagtgag ctcctccgac agcgaggccc ccgaggccaa ccccgccgac 400 ggcagtgacg ctgacgagga cgatgaggac cggggggtca tggccgtcac 450 ageggtaace gecaeagetg ceagegaeag gatggagage gaeteagaet 500 cagacaagag tagcgacaac agtggcctga agaggaagac gcctgcgcta 550 aagatgtcgg tctcgaaacg agcccgaaag gcctccagcg acctggatca 600 ggccagcgtg tececateeg aagaggagaa eteggaaage teatetgagt 650 cggagaagac cagcgaccag gacttcacac ctgagaagaa agcagcggtc 700 cgggcgccac ggaggggccc tctgggggga cggaaaaaaa agaaggcgcc 750 gtcagcctcc gactccgact ccaaggccga ttcggacggg gccaagcctg 800 ageeggtgge catggegegg teggegteet ceteeteete tteeteetee 850 tectecgaet eegatgtgte tgtgaagaag eeteegaggg geaggaagee 900 ageggagaag ceteteeega ageegegagg geggaaaceg aageetgaae 950 ggcctccgtc cagctccagc agtgacagtg acagcgacga ggtggaccgc 1000 atcagtgagt ggaagcggcg ggacgaggcg cggaggcgcg agctggaggc 1050 ccggcggcgg cgagagcagg aggaggagct gcggcgcctg cgggagcagg 1100 agaaggagga gaaggagcgg aggccgagc gggccgaccg cggggaggct 1150

gageggggea geggeggeag eageggggae gageteaggg aggaegatga 1200

gcccgtcaag aagcggggac gcaagggccg gggccggggt cccccgtcct 1250 cctctgactc cgagcccgag gccgagctgg agagagaggc caagaaatca 1300 gcgaagaagc cgcagtcctc aagcacagag cccgccagga aacctggcca 1350 gaaggagaag agagtgcggc ccgaggagaa gcaacaagcc aagcccgtga 1400 aggtggagcg gacccggaag cggtccgagg gcttctcgat ggacaggaag 1450 gtagagaaga agaaagagcc ctccgtggag gagaagctgc agaagctgca 1500 cagtgagatc aagtttgccc taaaggtcga cagcccggac gtgaagaggt 1550 geetgaatge eetagaggag etgggaacee tgeaggtgae eteteagate 1600 ctccagaaga acacagacgt ggtggccacc ttgaagaaga ttcgccgtta 1650 caaagcgaac aaggacgtaa tggagaaggc agcagaagtc tatacccggc 1700 tcaagtcgcg ggtcctcggc ccaaagatcg aggcggtgca gaaagtgaac 1750 aaggctggga tggagaagga gaaggccgag gagaagctgg ccggggagga 1800 gctggccggg gaggaggcc cccaggagaa ggcggaggac aagcccagca 1850 ccgatctctc agccccagtg aatggcgagg ccacatcaca gaagggggag 1900 agcgcagagg acaaggagca cgaggagggt cgggactcgg aggaggggcc 1950 aaggtgtggc teetetgaag aeetgeaega eagegtaegg gagggteeeg 2000 acctggacag gcctgggagc gaccggcagg agcgcgagag ggcacggggg 2050 gactcggagg ccctggacga ggagagctga gccggggca gccaggccca 2100 geceegeee gageteagge tgeceetete etteeeegge tegeaggaga 2150 gcagagcaga gaactgtggg gaacgctgtg ctgtttgtat ttgttccctt 2200 gggttttttt ttcctgccta atttctgtga tttccaacca acatgaaatg 2250 actataaacg gtttttaat ga 2272

<210> 308

<211> 671

<212> PRT

<213> Homo sapiens

<400> 308

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Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp 20 25 30

Gly Ala Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe

				35					40					45
Gly	Thr	His	Glu	Thr 50	Ala	Phe	Leu	Gly	Pro 55	Lys	Asp	Leu	Phe	Pro 60
Tyr	Asp	Lys	Cys	Lys 65	Asp	Lys	Tyr	Gly	Lys 70	Pro	Asn	Lys	Arg	Lys 75
Gly	Phe	Asn	Glu	Gly 80	Leu	Trp	Glu	Ile	Gln 85	Asn	Asn	Pro	His	Ala 90
Ser	Tyr	Ser	Ala	Pro 95	Pro	Pro	Val	Ser	Ser 100	Ser	Asp	Ser	Glu	Ala 105
Pro	Glu	Ala	Asn	Pro 110	Ala	Asp	Gly	Ser	Asp 115	Ala	Asp	Glu	Asp	Asp 120
Glu	Asp	Arg	Gly	Val 125	Met	Ala	Val	Thr	Ala 130	Val	Thr	Ala	Thr	Ala 135
Ala	Ser	Asp	Arg	Met 140	Glu	Ser	Asp	Ser	Asp 145	Ser	Asp	Lys	Ser	Ser 150
. Asp	Asn	Ser	Gly	Leu 155	Lys	Arg	Lys	Thr	Pro 160	Ala	Leu	Lys	Met	Ser 165
Val	Ser	Lys	Arg	Ala 170		Lys	Ala	Ser	Ser 175	Asp	Leu	Asp	Gln	Ala 180
Ser	Val	Ser	Pro	Ser 185		Glu	Glu	Asn	Ser 190	Glu	Ser	Ser	Ser	Glu 195
Ser	Glu	Lys	Thr	Ser 200		Gln	Asp	Phe	Thr 205	Pro	Glu	Lys	Lys	Ala 210
Ala	Val	Arg	Ala	Pro 215		Arg	Gly	Pro	Leu 220		Gly	Arg	Lys	Lys 225
Lys	Lys	Ala	Pro	Ser 230		Ser	Asp	Ser	Asp 235	Ser	Lys	Ala	Asp	Ser 240
Asp	Gly	Ala	Lys	Pro 245		Pro	Val	Ala	Met 250	Ala	Arg	Ser	Ala	Ser 255
Ser	Ser	Ser	Ser	Ser 260		Ser	Ser	Ser	Asp 265	Ser	Asp	Val	Ser	Val 270
Lys	. Lys	Pro	) Pro	Arg 275		Arg	Lys	Pro	Ala 280	Glu	Lys	Pro	Leu	Pro 285
Lys	s Pro	Arg	g Gly	290		Pro	Lys	Pro	Glu 295	Arg	Pro	Pro	Ser	Ser 300
Sei	s Ser	Sei	: Asp	Ser 305		Ser	: Asp	Glu	Val 310	Asp	Arg	Ile	Ser	Glu 315
m		70	. 7	- 7\ o -	. Cl.	. Δ1=	λ×c	Δνο	τΔνο	r Gli	ı Lei	Glu	Ala	Arc

				320					325					330
Arg	Arg	Arg	Glu	Gln 335	Glu	Glu	Glu	Leu	Arg 340	Arg	Leu	Arg	Glu	Gln 345
Glu	Lys	Glu	Glu	Lys 350	Glu	Arg	Arg	Arg	Glu 355	Arg	Ala	Asp	Arg	Gly 360
Glu	Ala	Glu	Arg	Gly 365	Ser	Gly	Gly	Ser	Ser 370	Gly	Asp	Glu	Leu	Arg 375
Glu	Asp	Asp	Glu	Pro 380	Val	Lys	Lys	Arg	Gly 385	Arg	Lys	Gly	Arg	Gly 390
Arg	Gly	Pro	Pro	Ser 395	Ser	Ser	Asp	Ser	Glu 400	Pro	Glu	Ala	Glu	Leu 405
Glu	Arg	Glu	Ala	Lys 410	Lys	Ser	Ala	Lys	Lys 415	Pro	Gln	Ser	Ser	Ser 420
Thr	Glu	Pro	Ala	Arg 425	Lys	Pro	Gly	Gln	Lys 430	Glu	Lys	Arg	Val	Arg 435
Pro	Glu	Glu	Lys	Gln 440	Gln	Ala	Lys	Pro	Val 445	Lys	Val	Glu	Arg	Thr 450
Arg	Lys	Arg	Ser	Glu 455	Gly	Phe	Ser	Met	Asp 460	Arg	Lys	Val	Glu	Lys 465
Lys	Lys	Glu	Pro	Ser 470	Val	Glu	Glu	Lys	Leu 475	Gln	Lys	Leu	His	Ser 480
Glu	Ile	Lys	Phe	Ala 485		Lys	Val	Asp	Ser 490	Pro	Asp	Val	Lys	Arg 495
Cys	Leu	Asn	Ala	Leu 500		Glu	Leu	Gly	Thr 505	Leu	Gln	Val	Thr	Ser 510
Gln	Ile	Leu	Gln	Lys 515		Thr	Asp	Val	Val 520	Ala	Thr	Leu	Lys	Lys 525
Ile	Arg	Arg	Tyr	Lys 530	Ala	Asn	Lys	Asp	Val 535	Met	Glu	Lys	Ala	Ala 540
Glu	val	Tyr	Thr	Arg 545		Lys	Ser	Arg	Val 550	Leu	Gly	Pro	Lys	Ile 555
Glu	ı Ala	Val	Gln	Lys 560		Asn	Lys	Ala	Gly 565		Glu	Lys	Glu	Lys 570
Ala	a Glu	Glu	Lys	Leu 575		Gly	Glu	Glu	Leu 580	Ala	Gly	Glu	Glu	Ala 585
Pro	Glr	ı Glu	Lys	Ala 590		ı Asp	Lys	Pro	Ser 595	Thr	Asp	Leu	Ser	Ala 600
D~	\ [/=1	Aer	G I s	, Gl:	1 Ala	Thr	Ser	Glr	Lvs	Glv	/ Glu	Ser	Ala	Glu

Asp Lys Glu His Glu Glu Glu Arg Arg Ser Glu Glu Glu Gly Pro Arg 630

Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro 645

Asp Leu Asp Arg Pro Gly Ser Asp Arg Gln Glu Arg Glu Arg Ala 660

Arg Gly Asp Ser Glu Ala Leu Asp Glu Glu Ser Ser Ser Val Arg Glu Arg His Glu Arg Glu Arg Ala 660

<210> 309

<211> 3871

<212> DNA

<213> Homo sapiens

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## <210> 317 <211> 837 <212> PRT <213> Homo sapiens <400> 317 Met Ser Gln Thr Gly Ser His Pro Gly Arg Gly Leu Ala Gly Arg Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Pro Ile Val Pro Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Ala Ser Leu Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser Gly Ala Pro Ala Arg Leu Leu Cys Arg Leu Gln Ala Phe Gly Glu Thr Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly 110 Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu Gly Val Leu Gln Tyr Arg Gly Ala Glu Leu His Leu Gln Pro Leu Glu Gly Gly Thr Pro Asn Ser Ala Gly Gly Pro Gly Ala His Ile Leu Arg Arg Lys Ser Pro Ala Ser Gly Gln Gly Pro Met Cys Asn Val Lys Ala Pro Leu Gly Ser Pro Ser Pro Arg Pro Arg Ala Lys Arg Phe Ala Ser Leu Ser Arg Phe Val Glu Thr Leu Val Val 215 Ala Asp Asp Lys Met Ala Ala Phe His Gly Ala Gly Leu Lys Arg 230 Tyr Leu Leu Thr Val Met Ala Ala Ala Ala Lys Ala Phe Lys His

aaggaaa 4407

				245					250					255
Pro	Ser	Ile	Arg	Asn 260	Pro	Val	Ser	Leu	Val 265	Val	Thr	Arg	Leu	Val 270
Ile	Leu	Gly	Ser	Gly 275	Glu	<b>Gl</b> u	Gly	Pro	Gln 280	Val	Gly	Pro	Ser	Ala 285
Ala	Gln	Thr	Leu	Arg 290	Ser	Phe	Cys	Ala	Trp 295	Gln	Arg	Gly	Leu	Asn 300
Thr	Pro	Glu	Asp	Ser 305	Gly	Pro	Asp	His	Phe 310	Asp	Thr	Ala	Ile	Leu 315
Phe	Thr	Arg	Gln	Asp 320	Leu	Суѕ	Gly	Val	Ser 325	Thr	Cys	Asp	Thr	Leu 330
Gly	Met	Ala	Asp	Val 335	Gly	Thr	Val	Cys	Asp 340	Pro	Ala	Arg	Ser	Cys 345
Ala	Ile	Val	Glu	Asp 350	Asp	Gly	Leu	Gln	Ser 355	Ala	Phe	Thr	Ala	Ala 360
His	Glu	Leu	Gly	His 365	Val	Phe	Asn	Met	Leu 370	His	Asp	Asn	Ser	Lys 375
Pro	Cys	Ile	Ser	Leu 380	Asn	Gly	Pro	Leu	Ser 385	Thr	Ser	Arg	His	Val 390
Met	Ala	Pro	Val	Met 395	Ala	His	Val	Asp	Pro 400	Glu	Glu	Pro	Trp	Ser 405
Pro	Cys	Ser	Ala	Arg 410	Phe	Ile	Thr	Asp	Phe 415	Leu	Asp	Asn	Gly	Tyr 420
Gly	His	Cys	Leu	Leu 425	Asp	Lys	Pro	Glu	Ala 430	Pro	Leu	His	Leu	Pro 435
Val	Thr	Phe	Pro	Gly 440	Lys	Asp	Tyr	Asp	Ala 445	Asp	Arg	Gln	Cys	Gln 450
Leu	Thr	Phe	Gly	Pro 455	Asp	Ser	Arg	His	Cys 460	Pro	Gln	Leu	Pro	Pro 465
Pro	Суз	Ala	Ala	Leu 470		Суз	Ser	Gly	His 475	Leu	Asn	Gly	His	Ala 480
Met	Cys	Gln	Thr	Lys 485		Ser	Pro	Trp	Ala 490	Asp	Gly	Thr	Pro	Cys 495
Gly	Pro	Ala	Gln	Ala 500		Met	Gly	Gly	Arg 505		Leu	His	Met	Asp 510
Gln	Leu	Gln	Asp	Phe 515		Ile	Pro	Gln	Ala 520		Gly	Trp	Gly	Pro 525
Trr	. Glu	Pro	Trp	Glv	Asn	Cvs	Ser	Ara	Thr	Cvs	Glv	Gly	Gly	Val

				530					535					540
Gln	Phe	Ser	Ser	Arg 545	Asp	Суѕ	Thr	Arg	Pro 550	Val	Pro	Arg	Asn	Gly 555
Gly	Lys	Tyr	Суз	Glu 560	Gly	Arg	Arg	Thr	Arg 565	Phe	Arg	Ser	Суѕ	Asn 570
Thr	Glu	Asp	Cys	Pro 575	Thr	Gly	Ser	Ala	Leu 580	Thr	Phe	Arg	Glu	Glu 585
Gln	Cys	Ala	Ala	Tyr 590	Asn	His	Arg	Thr	Asp 595	Leu	Phe	Lys	Ser	Phe 600
Pro	Gly	Pro	Met	Asp 605	Trp	Val	Pro	Arg	Tyr 610	Thr	Gly	Val	Ala	Pro 615
Gln	Asp	Gln	Cys	Lys 620	Leu	Thr	Cys	Gln	Ala 625	Arg	Ala	Leu	Gly	Tyr 630
Tyr	Tyr	Val	Leu	Glu 635	Pro	Arg	Val	Val	Asp 640	Gly	Thr	Pro	Cys	Ser 645
Pro	Asp	Ser	Ser	Ser 650	Val	Cys	Val	Gln	Gly 655	Arg	Cys	Ile	His	Ala 660
Gly	Суз	Asp	Arg	Ile 665	Ile	Gly	Ser	Lys	Lys 670	Lys	Phe	Asp	Lys	Cys 675
Met	Val	Cys.	Gly	Gly 680	Asp	Gly	Ser	Gly	Cys 685	Ser	Lys	Gln	Ser	Gly 690
Ser	Phe	Arg	Lys	Phe 695	Arg	Tyr	Gly	Tyr	Asn 700	Asn	Val	Val	Thr	Ile 705
Pro	Ala	Gly	Ala	Thr 710	His	Ile	Leu	Val	Arg 715	Gln	Gln	Gly	Asn	Pro 720
Gly	His	Arg	Ser	Ile 725	Tyr	Leu	Ala	Leu	Lys 730	Leu	Pro	Asp	Gly	Ser 735
Tyr	Ala	Leu	Asn	Gly 740	Glu	Tyr	Thr	Leu	Met 745	Pro	Ser	Pro	Thr	Asp 750
Val	Val	Leu	Pro	Gly 755		Val	Ser	Leu	Arg 760	Tyr	Ser	Gly	Ala	Thr 765
Ala	Ala	Ser	Glu	Thr 770		Ser	Gly	His	Gly 775	Pro	Leu	Ala	Gln	Pro 780
Leu	Thr	Leu	Gln	Val 785		Val	Ala	Gly	Asn 790	Pro	Gln	Asp	Thr	Arg 795
Leu	Arg	Tyr	Ser	Phe 800		Val	Pro	Arg	Pro 805		Pro	Ser	Thr	Prc 810
7. ~ ~	Dro	Thr	Pro	Gln	Δsn	Trn	Leu	His	Ara	Ara	Ala	Gln	Tle	Leu

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Glu Ile Leu Arg Arg Arg Pro Trp Ala Gly Arg Lys 830 835

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<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 318

ccctgaagct gccagatggc tcc 23

<210> 319

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 319

ctgtgctctt cggtgcagcc agtc 24

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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 320

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<210> 321

<211> 1197

<212> DNA

<213> Homo sapiens

<400> 321

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gggggagcaa gcacttctgg ccggaggtac ccaaaaaagc ctatgacatg 250
gagcacactt tctacagcaa tggagagaag aagaagattt acatggaaat 300
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<210> 322

<211> 317

<212> PRT

<213> Homo sapiens

<400> 322

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Asn Ala Glu Ala Phe Lys Ser Lys Lys Ile Cys Lys Ser Leu Lys 20 25 30

Ile Cys Gly Leu Val Phe Gly Ile Leu Ala Leu Thr Leu Ile Val 35 40 45

Leu Phe Trp Gly Ser Lys His Phe Trp Pro Glu Val Pro Lys Lys
50 55 60

Ala Tyr Asp Met Glu His Thr Phe Tyr Ser Asn Gly Glu Lys Lys
65 70 75

Lys Ile Tyr Met Glu Ile Asp Pro Val Thr Arg Thr Glu Ile Phe

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Arg	Ser	Gly	Asn	Gly 95	Thr	Asp	Glu	Thr	Leu 100	Glu	Val	His	Asp	Phe 105
Lys	Asn	Gly	Tyr	Thr 110	Gly	Ile	Tyr	Phe	Val 115	Gly	Leu	Gln	Lys	Cys 120
Phe	Ile	Lys	Thr	Gln 125	Ile	Lys	Val	Ile	Pro 130	Glu	Phe	Ser	Glu	Pro 135
Glu	Glu	Glu	Ile	Asp 140	Glu	Asn	Glu	Glu	Ile 145	Thr	Thr	Thr	Phe	Phe 150
Glu	Gln	Ser	Val	Ile 155	Trp	Val	Pro	Ala	Glu 160	Lys	Pro	Ile	Glu	Asn 165
Arg	Asp	Phe	Leu	Lys 170	Asn	Ser	Lys	Ile	Leu 175	Glu	Ile	Cys	Asp	Asn 180
Val	Thr	Met	Tyr	Trp 185	Ile	Asn	Pro	Thr	Leu 190	Ile	Ser	Val	Ser	Glu 195
Leu	Gln	Asp	Phe	Glu 200	Glu	Glu	Gly	Glu	Asp 205	Leu	His	Phe	Pro	Ala 210
Asn	Glu	Lys	Lys	Gly 215	Ile	Glu	Gln	Asn	Glu 220	Gln	Trp	Val	Val	Pro 225
Gln	Val	Lys	Val	Glu 230	Lys	Thr	Arg	His	Ala 235	Arg	Gln	Ala	Ser	Glu 240
Glu	Glu	Leu	Pro	Ile 245	Asn	Asp	Tyr	Thr	Glu 250	Asn	Gly	Ile	Glu	Phe 255
Asp	Pro	Met	Leu	Asp 260	Glu	Arg	Gly	Tyr	Cys 265	Cys	Ile	Tyr	Суѕ	Arg 270
Arg	Gly	Asn	Arg	Tyr 275	Суз	Arg	Arg	Val	Cys 280	Glu	Pro	Leu	Leu	Gly 285
Tyr	Tyr	Pro	Tyr	Pro 290	Tyr	Cys	Tyr	Gln	Gly 295	Gly	Arg	Val	Ile	Cys 300
Arg	Val	Ile	Met	Pro 305	Cys	Asn	Trp	Trp	Val 310	Ala	Arg	Met	Leu	Gly 315
Arg	Val													

<sup>&</sup>lt;210> 323 <211> 1174 <212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 323

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<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

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Arg	Arg	Thr	Ala	His 35	Val	Gly	Thr	Asn	Ile 40	Leu	Thr	Ala	Val	Ser 45
Tyr	Leu	Lys	Gly	Leu 50	Trp	Met	Glu	Cys	Val 55	Trp	His	Ser	Thr	Gly 60
Ile	Tyr	Gln	Cys	Gln 65	Ile	Tyr	Arg	Ser	Leu 70	Leu	Ala	Leu	Pro	Gln 75
Asp	Leu	Gln	Ala	Ala 80	Arg	Ala	Leu	Met	Val 85	Ile	Ser	Cys	Leu	Leu 90
Ser	Gly	Ile	Ala	Cys 95	Ala	Суѕ	Ala	Val	Ile 100	Gly	Met	Lys	Cys	Thr 105
Arg	Cys	Ala	Lys	Gly 110	Thr	Pro	Ala	Lys	Thr 115	Thr	Phe	Ala	Ile	Leu 120
Gly	Gly	Thr	Leu	Phe 125	Ile	Leu	Ala	Gly	Leu 130	Leu	Суѕ	Met	Val	Ala 135
Val	Ser	Trp	Thr	Thr 140	Asn	Asp	Val	Val	Gln 145	Asn	Phe	Tyr	Asn	Pro 150
Leu	Leu	Pro	Ser	Gly 155	Met	Lys	Phe	Glu	Ile 160	Gly	Gln	Ala	Leu	Tyr 165
Leu	Gly	Phe	Ile	Ser 170	Ser	Ser	Leu	Ser	Leu 175	Ile	Gly	Gly	Thr	Leu 180
Leu	Cys	Leu	Ser	Cys 185	Gln	Asp	Glu	Ala	Pro 190	Tyr	Arg	Pro	Tyr	Gln 195
Ala	Pro	Pro	Arg	Ala 200		Thr	Thr	Thr	Ala 205	Asn	Thr	Ala	Pro	Ala 210
Tyr	Gln	Pro	Pro	Ala 215	Ala	Туг	Lys	Asp	Asn 220	Arg	Ala	Pro	Ser	Val 225
Thr	Ser	Ala	Thr	His 230		Gly	Туг	Arg	Leu 235	Asn	Asp	Tyr	Val	
<211 <212	> 32 > 21 > DN > Ho	21 A	apie	: ns										

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aaccccgtca cctccgtgtt ccagtacgaa gggctctgga ggagctgcgt 250 gaggcagagt tcaggcttca ccgaatgcag gccctatttc accatcctgg 300 gacttccagc catgctgcag gcagtgcgag ccctgatgat cgtaggcatc 350 gtcctgggtg ccattggcct cctggtatcc atctttgccc tgaaatgcat 400 ccgcattggc agcatggagg actctgccaa agccaacatg acactgacct 450 ccgggatcat gttcattgtc tcaggtcttt gtgcaattgc tggagtgtct 500 gtgtttgcca acatgctggt gactaacttc tggatgtcca cagctaacat 550 gtacaccggc atgggtggga tggtgcagac tgttcagacc aggtacacat 600 ttggtgcggc tctgttcgtg ggctgggtcg ctggaggcct cacactaatt 650 gggggtgtga tgatgtgcat cgcctgccgg ggcctggcac cagaagaaac 700 caactacaaa gccgtttctt atcatgcctc aggccacagt gttgcctaca 750 agcctggagg cttcaaggcc agcactggct ttgggtccaa caccaaaaac 800 aagaagatat acgatggagg tgcccgcaca gaggacgagg tacaatctta 850 tccttccaag cacgactatg tgtaatgctc taagacctct cagcacgggc 900 ggaagaaact cccggagagc tcacccaaaa aacaaggaga tcccatctag 950 atttcttctt gcttttgact cacagctgga agttagaaaa gcctcgattt 1000 catctttgga gaggccaaat ggtcttagcc tcagtctctg tctctaaata 1050 ttccaccata aaacagctga gttatttatg aattagaggc tatagctcac 1100 attttcaatc ctctatttct ttttttaaat ataactttct actctgatga 1150 gagaatgtgg ttttaatctc tctctcacat tttgatgatt tagacagact 1200 ccccctcttc ctcctagtca ataaacccat tgatgatcta tttcccagct 1250 tatccccaag aaaacttttg aaaggaaaga gtagacccaa agatgttatt 1300 ttctgctgtt tgaattttgt ctccccaccc ccaacttggc tagtaataaa 1350 cacttactga agaagaagca ataagagaaa gatatttgta atctctccag 1400 agtcattttc agtttgaggc aaccaaacct ttctactgct gttgacatct 1500 tottattaca gcaacaccat totaggagtt tootgagete tecactggag 1550 tcctctttct gtcgcgggtc agaaattgtc cctagatgaa tgagaaaatt 1600 attttttta atttaagtcc taaatatagt taaaataaat aatgttttag 1650 taaaatgata cactatctct gtgaaatagc ctcaccccta catgtggata 1700 gaaggaaatg aaaaaataat tgctttgaca ttgtctatat ggtactttgt 1750 aaagtcatgc ttaagtacaa attccatgaa aagctcacac ctgtaatcct 1800 agcactttgg gaggctgagg aggaaggatc acttgagccc agaagttcga 1850 gactagcctg ggcaacatgg agaagccctg tctctacaaa atacagagag 1900 aaaaaatcag ccagtcatgg tggcatacac ctgtagtccc agcattccgg 1950 gaggetgagg tgggaggate acttgageee agggaggttg gggetgeagt 2000 qaqccatqat cacaccactg cactccagcc aggtgacata gcgagatcct 2050 gtctaaaaaa ataaaaaata aataatggaa cacagcaagt cctaggaagt 2100 aggttaaaac taattcttta a 2121

<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

Met Ser Thr Thr Cys Gln Val Val Ala Phe Leu Leu Ser Ile

Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg 95

Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr 110

Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly 125

Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser 150 140 145

Thr Ala Asn Met Tyr Thr Gly Met Gly Met Val Gln Thr Val Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 195 190 Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 205 Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe 225 Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile 235 Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 250 Ser Lys His Asp Tyr Val

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

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<211> 225
<212> PRT
<213> Homo sapiens
<400> 328
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 Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp
 Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn
 Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile
 Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro
 Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met
 Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr
                                     100
 Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu
                 110
 Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile
                                      130
 Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn
 Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu
 Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala
 Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr
 Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His
                                      205
 Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val
                                                          225
                 215
                                      220
<210> 329
<211> 1315
<212> DNA
<213> Homo sapiens
<400> 329
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<sup>&</sup>lt;210> 330

<sup>&</sup>lt;211> 220

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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<400> 330
Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu
Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp
 Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val
 Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly
 Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln
 Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val
 Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr
 Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr
 Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro
 Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro
 Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr
 Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu
 Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
 Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly
 Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val
<210> 331
<211> 1160
<212> DNA
<213> Homo sapiens
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<400> 331
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gtaaaggcaa tggcatttta teeettgcaa attgetggge tggttettgg 150 gttccttggc atggtgggga ctcttgccac aacccttctg cctcagtggt 200 ggagtatcag cttttgttgg cagcaacatt attgtctttg agaggctctg 250 ggaagggctc tggatgaatt gcatccgaca agccagggtc cggttgcaat 300 gcaagttcta tageteettg ttggetetee egeetgeeet ggaaacagee 350 cgggccctca tgtgtgtggc tgttgctctc tccttgatcg ccctgcttat 400 tggcatctgt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450 ccaaagcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500 atcttcgttc tgattccggt gagctggaca gccaatataa tcatcagaga 550 tttctacaac ccagccatcc acataggtca gaaacgagag ctgggagcag 600 cacttttcct tggctgggca agcgctgctg tcctcttcat tggagggggt 650 ctgctttgtg gattttgctg ctgcaacaga aagaagcaag ggtacagata 700 tecagtgeet ggetaeegtg tgeeacaeae agataagega agaaataega 750 caatgcttag taagacctcc accagttatg tctaatgcct ccttttggct 800 ccaagtatgg actatggtca atgtttttta taaagtcctg ctagaaactg 850 taagtatgtg aggcaggaga acttgcttta tgtctagatt tacattgata 900 cgaaagtttc aatttgttac tggtggtagg aatgaaaatg acttacttgg 950 acattctgac ttcaggtgta ttaaatgcat tgactattgt tggacccaat 1000 cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050 caagtgtaca atgatggact acttattact ttttgaccat catgtattat 1100 ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150 acctattcta 1160

<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe 1 5 10 15

Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg 20 25 30

Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu

				35					40					45
Ile	Gly	Ile	Cys	Gly 50	Met	Lys	Gln	Val	Gln 55	Cys	Thr	Gly	Ser	Asn 60
Glu	Arg	Ala	Lys	Ala 65	Tyr	Leu	Leu	Gly	Thr 70	Ser	Gly	Val	Leu	Phe 75
Ile	Leu	Thr	Gly	Ile 80	Phe	Val	Leu	Ile	Pro 85	Val	Ser	Trp	Thr	Ala 90
Asn	Ile	Ile	Ile	Arg 95	Asp	Phe	Tyr	Asn	Pro 100	Ala	Ile	His	Ile	Gly 105
Gln	Lys	Arg	Glu	Leu 110	Gly	Ala	Ala	Leu	Phe 115	Leu	Gly	Trp	Ala	Ser 120
Ala	Ala	Val	Leu	Phe 125	Ile	Gly	Gly	Gly	Leu 130	Leu	Cys	Gly	Phe	Cys 135
Cys	Cys	Asn	Arg	Lys 140	Lys	Gln	Gly	Tyr	Arg 145	Tyr	Pro	Val	Pro	Gly 150
Tyr	Arg	Val	Pro	His 155	Thr	Asp	Lys	Arg	Arg 160	Asn	Thr	Thr	Met	Leu 165
Ser	Lys	Thr	Ser	Thr 170		Tyr	Val							
	> 33 > 53													

<212> DNA

<213> Homo sapiens

<400> 333

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<210> 334
<211> 85
<212> PRT
<213> Homo sapiens
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<400> 334
Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr
1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys
35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr
50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly
65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys 80 85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335
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 tggecetgac egggetggeg ctgeteetge teetgtgetg gggeceaggt 150
 ggcataagtg gaaataaact caagetgatg etteaaaaac gagaaageace 200
 tgttccaact aagactaaag tggecgttga tgagaataaa gccaaagaat 250
 tcettggeag ectgaagege eagaagegge agetgtggga eeggactegg 300
 ccegaggtge ageagtggta ecageagtt etetacatgg getttgatga 350
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 gacatgata etatggegat tactaccaac gteaetatga tgaagactet 450
 gcaattggte eceggageee etacggettt aggeatggag ecagegteaa 500
 ctacgatgac tactaaccat gacttgecac acgetgtaca agaageaaat 550
 agegattete tteatgtate teetaatgee ttacactact tggtttetga 600
 tttgetetat tteageagat etttetace tactttgtg gateaaaaaa 650
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## cctctcattt aaaaatagaa ataaagcatt ttgttaaaaa ga 742

<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

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1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu
50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln 110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr 140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

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tgaaggggtg ggtgatgagg tgaccgtcct tttctcggtg cttgcctgcc 150
ttctggtgct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200
gacccactgc cccagccgtc agggacccca acgccatccc agcccagcgc 250
agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300

cccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350 gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400 gctacggctg aaattcctca atgattcaga gcaggtggcc agggcctggc 450 cccacgacac cattggctcc ttgaaaagga cccagtttcc cggccgggaa 500 cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550 gaccetggge ageetteace teceteceaa etgegttete caetgeeacg 600 tgtccacgag agtcggtccc ccaaatcccc cctgcccgcc ggggtccgag 650 cccggcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700 cctgctgttg ctgctgctct ggtactgcca gatccagtac cggcccttct 750 ttcccctgac cgccactctg ggcctggccg gcttcaccct gctcctcagt 800 ctcctggcct ttgccatgta ccgcccgtag tgcctccgcg ggcgcttggc 850 agegtegeeg geceeteegg acettgetee eegegeegeg gegggagetg 900 ctgcctgccc aggcccgcct ctccggcctg cctcttcccg ctgccctgga 950 gcccagccct gcgccgcaga ggactcccgg gactggcgga ggccccgccc 1000 tgcgaccgcc ggggctcggg gccacctccc ggggctgctg aacctcagcc 1050 cgcactggga gtgggctcct cggggtcggg catctgctgt cgctgcctcg 1100 geceegggea gageegggee geeeggggg eeegtettag tgttetgeeg 1150 gaggacccag ccgcctccaa tccctgacag ctccttgggc tgagttgggg 1200 acgccaggtc ggtgggaggc tggtgaaggg gagcggggag gggcagagga 1250 gttccccgga acccgtgcag attaaagtaa ctgtgaagtt ttaaaaaaaa 1300 aaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

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1 5 10 15

Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser 20 25 30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly

Thr	Pro	Thr	Pro	Ser 50	Gln	Pro	Ser	Ala	Ala 55	Met	Ala	Ala	Thr	Asp 60
Ser	Met	Arg	Gly	Glu 65	Ala	Pro	Gly	Ala	Glu 70	Thr	Pro	Ser	Leu	Arg 75
His	Arg	Gly	Gln	Ala 80	Ala	Gln	Pro	Glu	Pro 85	Ser	Thr	Gly	Phe	Thr 90
Ala	Thr	Pro	Pro	Ala 95	Pro	Asp	Ser	Pro	Gln 100	Glu	Pro	Leu	Val	Leu 105
Arg	Leu	Lys	Phe ·	Leu 110	Asn	Asp	Ser	Glu	Gln 115	Val	Ala	Arg	Ala	Trp 120
Pro	His	Asp	Thr	Ile 125	Gly	Ser	Leu	Lys	Arg 130	Thr	Gln	Phe	Pro	Gly 135
Arg	Glu	Gln	Gln	Val 140	Arg	Leu	Ile	Tyr	Gln 145	Gly	Gln	Leu	Leu	Gly 150
Asp	Asp	Thr	Gln	Thr 155	Leu	Gly	Ser	Leu	His 160	Leu	Pro	Pro	Asn	Cys 165
Val	Leu	His	Cys	His 170	Val	Ser	Thr	Arg	Val 175	Gly	Pro	Pro	Asn	Pro 180
Pro	Cys	Pro	Pro	Gly 185	Ser	Glu	Pro	Gly	Pro 190	Ser	Gly	Leu	Glu	Ile 195
Gly	Ser	Leu	Leu	Leu 200	Pro	Leu	Leu	Leu	Leu 205	Leu	Leu	Leu	Leu	Leu 210
Trp	Tyr	Cys	Gln	Ile 215	Gln	Tyr	Arg	Pro	Phe 220	Phe	Pro	Leu	Thr	Ala 225
Thr	Leu	Gly	Leu	Ala 230		Phe	Thr	Leu	Leu 235	Leu	Ser	Leu	Leu	Ala 240
Phe	Ala	Met	Tyr	Arg 245	Pro									
.010		_												

<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

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<sup>&</sup>lt;213> Homo sapiens

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Leu	Asn	Gln	Ala	Ser 20	Leu	Ile	Ser	Arg	Cys 25	Asp	Leu	Ala	Gln	Val 30
Leu	Gln	Leu	Glu	Asp 35	Leu	Asp	Gly	Phe	Glu 40	Gly	Tyr	Ser	Leu	Ser 45
Asp	Trp	Leu	Cys	Leu 50	Ala	Phe	Val	Glu	Ser 55	Lys	Phe	Asn	Ile	Ser 60
Lys	Ile	Asn	Glu	Asn 65	Ala	Asp	Gly	Ser	Phe 70	Asp	Tyr	Gly	Leu	Phe 75
Gln	Ile	Asn	Ser	His 80	Tyr	Trp	Cys	Asn	Asp 85	Tyr	Lys	Ser	Tyr	Ser 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly

110

125

100

130

<sup>&</sup>lt;210> 340

<sup>&</sup>lt;211> 148

<sup>&</sup>lt;212> PRT

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<212> DNA

<213> Homo sapiens

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<sup>&</sup>lt;210> 347

<sup>&</sup>lt;211> 639

<212> PRT <213> Homo sapiens

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Cys	Glu	Cys	His	Pro 290	Gly	Trp	Leu	Glu	Pro 295	Leu	Leu	Ser	Arg	Ile 300
Ala	Gly	Asp	Arg	Ser 305	Arg	Val	Val	Ser	Pro 310	Val	Ile	Asp	Val	Ile 315
Asp	Trp	Lys	Thr	Phe 320	Gln	Tyr	Tyr	Pro	Ser 325	Lys	Asp	Leu	Gln	Arg 330
Gly	Val	Leu	Asp	Trp 335	Lys	Leu	Asp	Phe	His 340	Trp	Glu	Pro	Leu	Pro 345
Glu	His	Val	Arg	Lys 350	Ala	Leu	Gln	Ser	Pro 355,		Ser	Pro	Ile	Arg 360
Ser	Pro	Val	Val	Pro 365	Gly	Glu	Val	Val	Ala 370	Met	Asp	Arg	His	Tyr 375
Phe	Gln	Asn	Thr	Gly 380	Ala	Tyr	Asp	Ser	Leu 385	Met	Ser	Leu	Arg	Gly 390
Gly	Glu	Asn	Leu	Glu 395	Leu	Ser	Phe	Lys	Ala 400	Trp	Leu	Cys	Gly	Gly 405
Ser	Val	Glu	Ile	Leu 410	Pro	Cys	Ser	Arg	Val 415	Gly	His	Ile	Tyr	Gln 420
Asn	Gln	Asp	Ser	His 425	Ser	Pro	Leu	Asp	Gln 430	Glu	Ala	Thr	Leu	Arg 435
Asn	Arg	Val	Arg	Ile 440	Ala	Glu	Thr	Trp	Leu 445	Gly	Ser	Phe	Lys	Glu 450
Thr	Phe	Tyr	Lys	His 455	Ser	Pro	Glu	Ala	Phe 460	Ser	Leu	Ser	Lys	Ala 465
Glu	Lys	Pro	Asp	Cys 470	Met	Glu	Arg	Leu	Gln 475	Leu	Gln	Arg	Arg	Leu 480
Gly	Cys	Arg	Thr	Phe 485	His	Trp	Phe	Leu	Ala 490	Asn	Val	Tyr	Pro	Glu 495
Leu	Tyr	Pro	Ser	Glu 500	Pro	Arg	Pro	Ser	Phe 505	Ser	Gly	Lys	Leu	His 510
Asn	Thr	Gly	Leu	Gly 515	Leu	Cys	Ala	Asp	Cys 520	Gln	Ala	Glu	Gly	Asp 525
Ile	Leu	Gly	Суз	Pro 530	Met	Val	Leu	Ala	Pro 535	Суз	Ser	Asp	Ser	Arg 540
Gln	Gln	Gln	Tyr	Leu 545		His	Thr	Ser	Arg 550		Glu	Ile	His	Phe 555

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Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln
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His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser
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<400> 352

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<sup>&</sup>lt;211> 243

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly

1 5 10 15

Ser	Glu	Ile	Pro	Lys 35	Gly	Lys	Gln	Lys	Ala 40	Gln	Leu	Arg	Gln	Arg 45
Glu	Val	Val	Asp	Leu 50	Tyr	Asn	Gly	Met	Cys 55	Leu	Gln	Gly	Pro	Ala 60
Gly	Val	Pro	Gly	Arg 65	Asp	Gly	Ser	Pro	Gly 70	Ala	Asn	Val	Ile	Pro 75
Gly	Thr	Pro	Gly	Ile 80	Pro	Gly	Arg	Asp	Gly 85	Phe	Lys	Gly	Glu	Lys 90
Gly	Glu	Cys	Leu	Arg 95	Glu	Ser	Phe	Glu	Glu 100	Ser	Trp	Thr	Pro	Asn 105
Tyr	Lys	Gln	Cys	Ser 110	Trp	Ser	Ser	Leu	Asn 115	Tyr	Gly	Ile	Asp	Leu 120
Gly	Lys	Ile	Ala	Glu 125	Cys	Thr	Phe	Thr	Lys 130	Met	Arg	Ser	Asn	Ser 135
Ala	Leu	Arg	Val	Leu 140	Phe	Ser	Gly	Ser	Leu 145	Arg	Leu	Lys	Cys	Arg 150
Asn	Ala	Cys	Cys	Gln 155	Arg	Trp	Tyr	Phe	Thr 160	Phe	Asn	Gly	Ala	Glu 165
Cys	Ser	Gly	Pro	Leu 170	Pro	Ile	Glu	Ala	Ile 175	Ile	Туг	Leu	Asp	Gln 180
Gly	Ser	Pro	Glu	Met 185	Asn	Ser	Thr	Ile	Asn 190	Ile	His	Arg	Thr	Ser 195
Ser	Val	Glu	Gly	Leu 200	Cys	Glu	Gly	Ile	Gly 205	Ala	Gly	Leu	Val	Asp 210
Val	Ala	Ile	Trp	Val 215	Gly	Thr	Cys	Ser	Asp 220	Tyr	Pro	Lys	Gly	Asp 225
Ala	Ser	Thr	Gly	Trp 230		Ser	Val	Ser	Arg 235	Ile	Ile	Ile	Glu	Glu 240
Leu	Pro	Lys							•					

Leu Pro Lys

<sup>&</sup>lt;210> 353

<sup>&</sup>lt;211> 480

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 353

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teeggggtte tggeeeetge ggtgeteaca gaegatgtte eacaggagee 150

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<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

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Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu 20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp
50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser 65 70 75

Thr Ala Gin Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro 80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

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<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala 1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp
35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr
50 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu 65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu 95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln

125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro 140 145 150

Ser Pro Arg Gly Asp Leu Pro

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

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<210> 358 <211> 273 <212> PRT

<213> Homo sapiens

<400> 358

Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu 1 5 10 15

Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser 20 25 30

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp 35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val 50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu 65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser 80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu 110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe 125 130 135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val 140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 155 160 165

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Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His
                                     175
                170
Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe
Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
                                     205
                200
Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
                                     220
Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
Val Glu Leu
<210> 359
<211> 24
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 359
ccaqcagtgc ccatactcca tagc 24
<210> 360
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<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 360
tgacgagtgg gatacactgc 20
<210> 361
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 361
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<210> 362
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 362
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<210> 363
<211> 1777
<212> DNA
<213> Homo sapiens
<400> 363
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 ccggcgcggg tggcggagag atcagaagcc tcttccccaa gccgagccaa 100
 cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
 agtiggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
 cccagacage eggegetgge tgtggteggt getggeggeg gegettggge 250
 tettgacage tggagtatea geettggaag tatataegee aaaagaaate 300
 ttcqtqqcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
 tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
 gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
 cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
 tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
 atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
 cctqgacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
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 ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
 aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
 qcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
 tgeettetgg ateteaceag ggeecagtea tatatgeaca gttagaceae 900
 tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950
 tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000
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qaaacaaaac caaactggac totogtgcag aaaatgtagc ccattaccac 1050 atgtageett ggagaeeeag geaaggaeaa gtaeaegtgt acteaeagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttcttttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tgtctgccgc ttttaaaaaa tacccattgg 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp 1 5 10 15

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu 35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe
50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser
65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr 80 85 90

Ser	Gln	Gly	Gln	Val 95	Tyr	Leu	Gly	Asn	Tyr 100	Pro	Pro	Phe	Lys	Asp 105
Arg	Ile	Ser	Trp	Ala 110	Gly	Asp	Leu	Asp	Lys 115	Lys	Asp	Ala	Ser	11e 120
Asn	Ile	Glu	Asn	Met 125	Gln	Phe	Ile	His	Asn 130	Gly	Thr	Tyr	Ile	Cys 135
Asp	Val	Lys	Asn	Pro 140	Pro	Asp	Ile	Val	Val 145	Gln	Pro	Gly	His	Ile 150
Arg	Leu	Tyr	Val	Val 155	Glu	Lys	Glu	Asn	Leu 160	Pro	Val	Phe	Pro	Val 165
Trp	Val	Val	Val	Gly 170	Ile	Val	Thr	Ala	Val 175	Val	Leu	Gly	Leu	Thr 180
Leu	Leu	Ile	Ser	Met 185	Ile	Leu	Ala	Val	Leu 190	Tyr	Arg	Arg	Lys	Asn 195
Ser	Lys	Arg	Asp	Tyr 200	Thr	Gly	Cys	Ser	Thr 205	Ser	Glu	Ser	Leu	Ser 210
Pro	Val	Lys	Gln	Ala 215	Pro	Arg	Lys	Ser	Pro 220	Ser	Asp	Thr	Glu	Gly 225
Leu	Val	Lys	Ser	Leu 230	Pro	Ser	Gly	Ser	His 235	Gln	Gly	Pro	Val	Ile 240
Tyr	Ala	Gln	Leu	Asp 245	His	Ser	Gly	Gly	His 250	His	Ser	Asp	Lys	Ile 255
Asn	Lys	Ser	Glu	Ser 260	Val	Val	Tyr	Ala	Asp 265	Ile	Arg	Lys	Asn	

<sup>&</sup>lt;210> 365

<sup>&</sup>lt;211> 1321

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 365
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cgggctgccg cccccggggg cttggcctca agctgcggac gacgcggggt 100

ccatcagcgc gccgggctgc cgcctctcgg ccacggctgg gtcgggggcc 150

tcgggctggg gctggggctg gcgctcgggg tgaagctggc aggtgggctg 200

aggggcgcgg ccccggcgca gtcccccgcg gcccccgacc ctgaggcgtc 250

gcctctggcc gagccgccac aggagcagtc cctcgccccg tggtctccgc 300

agaccccggc gccgcctgc tccaggtgct tcgccagagc catcgagagc 350

agccgcgacc tgctgcacag gatcaaggat gaggtgggcg caccgggcat 400

agtggttgga gtttctgtag atggaaaaga agtctggtca gaaggtttag 450 qttatqctqa tqttqaqaac cgtgtaccat gtaaaccaga gacagttatg 500 cqaattqcta qcatcaqcaa aaqtctcacc atqqttqctc ttqccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaggtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750 aqaatqttqc atttqaqcaa qaaaaagaag gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 qateetttqt tetteaaace tqqtaqteaq tttttqtatt caacttttgg 1000 ctatacceta etggeageca tagtagagag agetteagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acgagccagt gatttacaat agagcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aaqtcaaatt ttctttqttt ccattccaaa atcaacctgc cacattttgg 1250 gagettttet acatgtetgt ttteteatet gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Pro 1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg 20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly
35 40 45

Leu Gly Leu Gly Leu Ala Leu Gly Val Lys Leu Ala Gly Gly Leu 50 55 60

Arg	Gly	Ala	Ala	Pro 65	Ala	Gln	Ser	Pro	Ala 70	Ala	Pro	Asp	Pro	Glu 75
Ala	Ser	Pro	Leu	Ala 80	Glu	Pro	Pro	Gln	Glu 85	Gln	Ser	Leu	Ala	Pro 90
Trp	Ser	Pro	Gln	Thr 95	Pro	Ala	Pro	Pro	Cys 100	Ser	Arg	Cys	Phe	Ala 105
Arg	Ala	Ile	Glu	Ser 110	Ser	Arg	Asp	Leu	Leu 115	His	Arg	Ile	Lys	Asp 120
Glu	Val	Gly	Ala	Pro 125	Gly	Ile	Val	Val	Gly 130	Val	Ser	Val	Asp	Gly 135
Lys	Glu	Val	Trp	Ser 140	Glu	Gly	Leu	Gly	Tyr 145	Ala	Asp	Val	Glu	Asn 150
Arg	Val	Pro	Cys	Lys 155	Pro	Glu	Thr	Val	Met 160	Arg	Ile	Ala	Ser	Ile 165
Ser	Lys	Ser	Leu	Thr 170	Met	Val	Ala	Leu	Ala 175	Lys	Leu	Trp	Glu	Ala 180
Gly	Lys	Leu	Asp	Leu 185	Asp	Ile	Pro	Val	Gln 190	His	Tyr	Val	Pro	Glu 195
Phe	Pro	Glu	Lys	Glu 200	Tyr	Glu	Gly	Glu	Lys 205	Val	Ser	Val	Thr	Thr 210
Arg	Leu	Leu	Ile	Ser 215	His	Leu	Ser	Gly	Ile 220	Arg	His	Tyr	Glu	Lys 225
Asp	Ile	Lys	Lys	Val 230	Lys	Glu	Glu	Lys	Ala 235	Tyr	Lys	Ala	Leu	Lys 240
Met	Met	Lys	Glu	Asn 245	Val	Ala	Phe	Glu	Gln 250	Glu	Lys	Glu	Gly	Lys 255
Ser	Asn	Glu	Lys	Asn 260		Phe	Thr	Lys	Phe 265		Thr	Glu	Gln	Glu 270
Asn	Glu	Ala	Lys	Cys 275	Arg	Asn	Ser	Lys	Pro 280	Gly	Lys	Lys	Lys	Asn 285
Asp	Phe	Glu	Gln	Gly 290		Leu	туг	Leu	Arg 295	Glu	Lys	Phe	Glu	Asn 300
Ser	Ile	Glu	. Ser	Leu 305		, Leu	Phe	Lys	310	Asp	Pro	Leu	Phe	Phe 315
Lys	Pro	Gly	ser,	Gln 320		e Leu	туг	Ser	Thr 325	Phe	Gly	Tyr	Thr	Leu 330
Leu	a Ala	Ala	a Ile	val 335		a Arç	g Ala	Ser	Gly 340		Lys	туг	Leu	345

25

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Tyr Met Gln Lys Ile Phe His Asp Leu Asp Met Leu Thr Thr Val
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 Gln Glu Glu Asn Glu Pro Val Ile Tyr Asn Arg Ala Arg
                 365
                                      370
<210> 367
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 367
tggaaaagaa gtctggtcag aaggtttagg 30
<210> 368
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 368
catttggctt cattctcctg ctctg 25
<210> 369
<211> 28
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 369
aaaacctcag aacaactcat tttgcacc 28
<210> 370
<211> 41
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 370
gtctcaccat ggttgctctt gccaaattgt gggaagcagg g 41
<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
 gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50
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<sup>&</sup>lt;210> 372

<sup>&</sup>lt;211> 269

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 372

Met Ala Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu 1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys

Arg Ala	Gly	Thr	Gly 35	Ala	Arg	Gly	Ala	Gly 40	Ala	Glu	Gly	Arg	Glu 45
Gly Glu	Ala	Cys	Gly 50	Thr	Val	Gly	Leu	Leu 55	Leu	Glu	His	Ser	Phe 60
Glu Ile	Asp	Asp	Ser 65	Ala	Asn	Phe	Arg	Lys 70	Arg	Gly	Ser	Leu	Leu 75
Trp Asn	Gln	Gln	Asp 80	Gly	Thr	Leu	Ser	Leu 85	Ser	Gln	Arg	Gln	Leu 90
Ser Glu	Glu	Glu	Arg 95	Gly	Arg	Leu	Arg	Asp 100	Val	Ala	Ala	Leu	Asn 105
Gly Leu	Туг	Arg	Val 110	Arg	Ile	Pro	Arg	Arg 115	Pro	Gly	Ala	Leu	Asp 120
Gly Leu	Glu	Ala	Gly 125	Gly	Tyr	Val	Ser	Ser 130	Phe	Val	Pro	Ala	Cys 135
Ser Leu	Val	Glu	Ser 140	His	Leu	Ser	Asp	Gln 145	Leu	Thr	Leu	His	Val 150
Asp Val	Ala	Gly	Asn 155	Val	Val	Gly	Val	Ser 160	Val	Val	Thr	His	Pro 165
Gly Gly	Суз	Arg	Gly 170	His	Glu	Val	Glu	Asp 175	Val	Asp	Leu	Glu	Leu 180
Phe Asn	Thr	Ser	Val 185	Gln	Leu	Gln	Pro	Pro 190	Thr	Thr	Ala	Pro	Gly 195
Pro Glu	Thr	Ala	Ala 200	Phe	Ile	Glu	Arg	Leu 205	Glu	Met	Glu	G1n	Ala 210
Gln Lys	Ala	Lys	Asn 215	Pro	Gln	Glu	Gln	Lys 220	Ser	Phe	Phe	Ala	Lys 225
Tyr Trp	Met	Tyr	Ile 230	Ile	Pro	Val	Val	Leu 235	Phe	Leu	Met	Met	Ser 240
Gly Ala	Pro	Asp	Thr 245	Gly	Gly	Gln	Gly	Gly 250	Gly	Gly	Gly	Gly	Gly 255
Gly Gly	Gly	Gly	Ser 260	Gly	Leu	Суз	Суз	Val 265	Pro	Pro	Ser	Leu	

<sup>&</sup>lt;210> 373

ggagegetge tggaacccga geeggageeg gagecacage ggggagggtg 50 geetggegge etggageegg aegtgteegg ggegteeeeg cagaeegggg 100

<sup>&</sup>lt;211> 1706

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 373

cagcaggtcg tccgggggcc caccatgctg gtgactgcct accttgcttt 150 tgtaggcctc ctggcctcct gcctggggct ggaactgtca agatgccggg 200 ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 tctggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 tctcctggct ctggcagggg ccttggccct tcgaaactgg ggggagaact 800 atgaceggea gegtgeette teaaggaeet gtgetggagg eetgegetge 850 ctcctgtcgg accgccgcgt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atettcatet ttgtetteet etggacaeet gtgetggaee 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 tcageceatg cacetgetgt ecettgetgt geteategte gtettetete 1100 tottcatgtt gactttctct accageceag gecaggagag teeggtggag 1150 teetteatag cetttetaet tattgagttg gettgtggat tataetttee 1200 cagcatgage ttectaegga gaaaggtgat eeetgagaca gageaggetg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tetgetgtca tggtgatggc tetgetggca gtggtgggac 1400 tetteacegt ggtaaggeat gatgetgage tgegggtace tteacetact 1450 gaggageeet atgeeeetga getgtaacee caeteeagga caagataget 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatggggtg atggactgga aagaaggtgc caaaagttcc 1650 ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly 20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe 35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala
50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly 65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu
110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala 140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu 155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp 185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu 200 205 210

Leu	Ala	Leu	Ala	Gly 215	Ala	Leu	Ala	Leu	Arg 220	Asn	Trp	Gly	Glu	Asn 225
Tyr	Asp	Arg	Gln	Arg 230	Ala	Phe	Ser	Arg	Thr 235	Cys	Ala	Gly	Gly	Leu 240
Arg	Cys	Leu	Leu	Ser 245	Asp	Arg	Arg	Val	Leu 250	Leu	Leu	Gly	Thr	Ile 255
Gln	Ala	Leu	Phe	Glu 260	Ser	Val	Ile	Phe	Ile 265	Phe	Val	Phe	Leu	Trp 270
Thr	Pro	Val	Leu	Asp 275	Pro	His	Gly	Ala	Pro 280	Leu	Gly	Ile	Ile	Phe 285
Ser	Ser	Phe	Met	Ala 290	Ala	Ser	Leu	Leu	Gly 295	Ser	Ser	Leu	Tyr	Arg 300
Ile	Ala	Thr	Ser	Lys 305	Arg	Tyr	His	Leu	Gln 310	Pro	Met	His	Leu	Leu 315
Ser	Leu	Ala	Val	Leu 320	Ile	Val	Val	Phe	Ser 325	Leu	Phe	Met	Leu	Thr 330
Phe	Ser	Thr	Ser	Pro 335	Gly	Gln	Glu	Ser	Pro 340	Val	Glu	Ser	Phe	Ile 345
Ala	Phe	Leu	Leu	Ile 350	Glu	Leu	Ala	Cys	Gly 355	Leu	Tyr	Phe	Pro	Ser 360
Met	Ser	Phe	Leu	Arg 365	Arg	Lys	Val	Ile	Pro 370	Glu	Thr	Glu	Gln	Ala 375
Gly	Val	Leu	Asn	Trp 380	Phe	Arg	Val	Pro	Leu 385	His	Ser	Leu	Ala	Cys 390
Leu	Gly	Leu	Leu	Val 395	Leu	His	Asp	Sèr	Asp 400	Arg	Lys	Thr	Gly	Thr 405
Arg	Asn	Met	Phe	Ser 410	Ile	Cys	Ser	Ala	Val 415	Met	Val	Met	Ala	Leu 420
Leu	Ala	Val	Val	Gly 425	Leu	Phe	Thr	Val	Val 430	Arg	His	Asp	Ala	Glu 435
Leu	Arg	Val	Pro	Ser 440		Thr	Glu	Glu	Pro 445		Ala	Pro	Glu	Leu 450
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<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 375

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<sup>&</sup>lt;210> 376

<sup>&</sup>lt;211> 188

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 376

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Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu 20 25 30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr
35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr 60
Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly 75
Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val 90
Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Gln 105
Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp 120
Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Gly Arg Asp 135
Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr 150
Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile 165
Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu 180

Leu Gln Pro Pro Trp Thr Phe Trp 185

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<211> 496

<212> DNA

<213> Homo sapiens

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<222> 396

<223> unknown base

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<210> 381

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<213> Homo sapiens
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 ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700
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 gcttctgcag aaaa 764
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<211> 178
<212> PRT
<213> Homo sapiens
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        Thr 20
        Trp Ala Gly
        Lys Met 25
        Tyr Gly
        Pro Gly 30
        Gly 30

        Gly
        Lys
        Tyr Phe 35
        Thr Thr Glu Asp 70
        Asp His Glu His Glu His Gly A5
        Gly His Glu His Glu His Glu A5
        Tyr A5
        His Glu His Glu His Glu A5
        Gly Leu Leu Leu Leu Leu Leu Leu Leu Gly Fin Glo Glu Glu Gly A1
        Gly A5
        Ser Trp Asp Val Lys Leu Gly A1
        Leu Gly A5
        Asp 75
        Ser Trp Asp Val Lys Leu Gly Fin Glu Gly Fin Gl
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atacagatgt ggcagctcag gtagccccaa attgcctgga agaatacatc 150
atgttttcg ataagaagaa attgtaggat ccagttttt ttttaaccgc 200
cccctcccca cccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250
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tgtcagcgag ccctgactca ctacagtgca gctgacaggg gctgtcatgc 450

<sup>&</sup>lt;210> 384

<sup>&</sup>lt;211> .2379

<sup>&</sup>lt;212> DNA

<sup>&</sup>lt;213> Homo sapiens

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<211> 513

<212> PRT

<213> Homo sapiens

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Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser
50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys
65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu 80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145

Glu	Gln	Phe	Arg	Gly 155	Leu	Arg	Lys	Leu	Leu 160	Ser	Leu	His	Leu	Arg 165
Ser	Asn	Ser	Leu	Arg 170	Thr	Ile	Pro	Val	Arg 175	Ile	Phe	Gln	Asp	Cys 180
Arg	Asn	Leu	Glu	Leu 185	Leu	Asp	Leu	Gly	Tyr 190	Asn	Arg	Ile	Arg	Ser 195
Leu	Ala	Arg	Asn	Val 200	Phe	Ala	Gly	Met	Ile 205	Arg	Leu	Lys	Glu	Leu 210
His	Leu	Glu	His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro	Arg	Leu	Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile	Ser	Val	Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln	Arg	Leu	Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro	Ser	Val	Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp	Ser	Asn	Lys	Leu 290	Thr	Phe	Ile	Ģlу	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp	Ile	Ser	Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Cys	Ser	Arg	Asn	Ile 320	Суѕ	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys	Gly	Leu	Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu	Gln	Gly	Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys	Gly	Lys	Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro	Lys	Pro	Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser	Lys	Pro	Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro	Glu	Thr	Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile	Ala	Gly	Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435

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Gln Leu Gln Gln Arg Ser Leu Met Arg Arg His Arg Lys Lys
Arg Gln Ser Leu Lys Gln Met Thr Pro Ser Thr Gln Glu Phe Tyr
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Val Asp Tyr Lys Pro Thr Asn Thr Glu Thr Ser Glu Met Leu Leu
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Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu
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Cys Glu Val
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ggtccccagg acatggtctg tccc 24
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 His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
                                      55
 Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
 Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
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 Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
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cagtaaccac aaataaaaga acgaatgtct cgggcagtat cagatagcag 850

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<213> Homo sapiens
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 Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu
 Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser
 Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu
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 Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp
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 Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr
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<210> 396
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<212> DNA
<213> Homo sapiens
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<210> 397

<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

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Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr
50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu
65 70 75

Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp 80 85 90

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Thr	Ala	Leu	Pro	Ala 125	Glu	Ser	Phe	Thr	Ser 130	Ser	Pro	Leu	Ser	Asp 135
Val	Asn	Leu	Ser	His 140	Asn	Gln	Leu	Arg	Glu 145	Val	Ser	Val	Ser	Ala 150
Phe	Thr	Thr	His	Ser 155	Gln	Gly	Arg	Ala	Leu 160	His	Val	Asp	Leu	Ser 165
His	Asn	Leu	Ile	His 170	Arg	Leu	Val	Pro	His 175	Pro	Thr	Arg	Ala	Gly 180
Leu	Pro	Ala	Pro	Thr 185	Ile	Gln	Ser	Leu	Asn 190	Leu	Ala	Trp	Asn	Arg 195
Leu	His	Ala	Val	Pro 200	Asn	Leu	Arg	Asp	Leu 205	Pro	Leu	Arg	Tyr	Leu 210
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Ala	Gly	Leu	Gly	Gly 230	Leu	Thr	His	Leu	Ser 235	Leu	Ala	Ser	Leu	Gln 240
Arg	Leu	Pro	Glu	Leu 245	Ala	Pro	Ser	Gly	Phe 250	Arg	Glu	Leu	Pro	Gly 255
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Gly	Ala	Glu	Val	Phe 275	Ser	Gly	Leu	Ser	Ser 280	Leu	Gln	Glu	Leu	Asp 285
Leu	Ser	Gly	Thr	Asn 290	Leu	Val	Pro	Leu	Pro 295	Glu	Ala	Leu	Leu	Leu 300
His	Leu	Pro	Ala	Leu 305	Gln	Ser	Val	Ser	Val 310	Gly	Gln	Asp	Val	Arg 315
Cys	Arg	Arg	Leu	Val 320	Arg	Glu	Gly	Thr	Tyr 325	Pro	Arg	Arg	Pro	Gly 330
Ser	Ser	Pro	Lys	Val 335	Pro	Leu	His	Cys	Val 340	Asp	Thr	Arg	Glu	Ser 345
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<sup>&</sup>lt;210> 398

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<sup>&</sup>lt;212> DNA

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<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

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Gly Ala	Thr	Thr	Cys 50	Ala	Thr	Asn	Ser	His 55	Ser	Asp	Ser	Glu	Leu 60
Arg Pro	Glu	Ile	Phe 65	Ser	Ser	Arg	Glu	Ala 70	Trp	Gln	Phe	Phe	Leu 75
Leu Leu	Trp	Ser	Pro 80	Asp	Phe	Arg	Pro	Lys 85	Met	Lys	Ala	Ser	Ser 90
Leu Ala	Phe	Ser	Leu 95	Leu	Ser	Ala	Ala	Phe 100	Tyr	Leu	Leu	Trp	Thr 105
Pro Ser	Thr	Gly	Leu 110	Lys	Thr	Leu	Asn	Leu 115	Gly	Ser	Суѕ	·Val	Ile 120
Ala Thr	Asn	Leu	Gln 125	Glu	Ile	Arg	Asn	Gly 130	Phe	Ser	Glu	Ile	Arg 135
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Cys Leu	Leu	Arg	His 170	Leu	Leu	Arg	Leu	Tyr 175	Leu	Asp	Arg	Val	Phe 180
Lys Asr	Туг	Gln	Thr 185	Pro	Asp	His	Tyr	Thr 190	Leu	Arg	Lys	Ile	Ser 195
Ser Leu	ı Ala	Asn	Ser 200	Phe	Leu	Thr	Ile	Lys 205	Lys	Asp	Leu	Arg	Leu 210
Ser His	: Ala	His	Met 215	Thr	Cys	His	Cys	Gly 220	Glu	Glu	Ala	Met	Lys 225
Lys Tyr	Ser	Gln	Ile 230	Leu	Ser	His	Phe	Glu 235	Lys	Leu	Glu	Pro	Gln 240
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	Leu	Gly	Ile	Ile	Glu 80	Glu	Glu	Gly	Phe	Leu 85	Lys	Leu	Trp	Gln	Gl y 90
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	Glu	Asp	Glu	His	Tyr 125	Pro	Leu	Trp	Lys	Ser 130	Val	Ile	Gly	Gly	Met 135
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	Tyr	Asp	Thr	Val	Lys 215	His	Tyr	Leu	Val	Leu 220	Asn	Thr	Pro	Leu	Glu 22!
	Asp	Asn	Ile	Met	Thr 230		Gly	Leu	Ser	Ser 235	Leu	Cys	Ser	Gly	Let 240
	Val	Ala	Ser	Ile	Leu 245	Gly	Thr	Pro	Ala	Asp 250	Va1	Ile	Lys	Ser	Arc 25

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Lys Ser Ser Thr Asp Cys Leu Ile Gln Ala Val Gln Gly Glu Gly
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Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala 20 25 30

<sup>&</sup>lt;210> 410

<sup>&</sup>lt;211> 158

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<sup>&</sup>lt;400> 410

Met Ala Gly Phe Leu Asp Asn Phe Arg Trp Pro Glu Cys Glu Cys
1 5 10 15

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Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala
                   35
 Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr
 Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val
 Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
· Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
                                      100
 Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
                                       115
 Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
                                       130
                  125
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
                                      145
                  140
 Gly Arg Thr Glu Glu Leu Trp Thr
                  155
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 <223> Synthetic oligonucleotide probe
 <400> 411
 gtttgaggaa gctgggatac 20
 <210> 412
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <223> Synthetic oligonucleotide probe
 <400> 412
 ccaaactcga gcacctgttc 20
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 <211> 40
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 <220>
 <223> Synthetic oligonucleotide probe
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<210> 414
<211> 1337
<212> DNA
<213> Homo sapiens

<400> 414
gttgatggca aactteetea aaggaggge agageetgeg cagggcagga 50
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gcagctggcc cactggcggc ccgcaacact ccgtctcacc ctctgggccc 100 actgcatcta gaggagggcc gtctgtgagg ccactacccc tccagcaact 150 gggaggtggg actgtcagaa gctggcccag ggtggtggtc agctgggtca 200 gggacctacg gcacctgctg gaccacctcg ccttctccat cgaagcaggg 250 aagtgggage ctegageeet egggtggaag etgaeeeeaa geeaceette 300 acctggacag gatgagagtg tcaggtgtgc ttcgcctcct ggccctcatc 350 tttgccatag tcacgacatg gatgtttatt cgaagctaca tgagcttcag 400 catgaaaacc atccgtctgc cacgctggct ggcagcctcg cccaccaagg 450 agatccaggt taaaaagtac aagtgtggcc tcatcaagcc ctgcccagcc 500 aactactttg cgtttaaaat ctgcagtggg gccgccaacg tcgtgggccc 550 tactatgtgc tttgaagacc gcatgatcat gagtcctgtg aaaaacaatg 600 tgggcagagg cctaaacatc gccctggtga atggaaccac gggagctgtg 650 ctgggacaga aggcatttga catgtactct ggagatgtta tgcacctagt 700 qaaatteett aaagaaatte eggggggtge aetggtgetg gtggeeteet 750 acgacgatcc agggaccaaa atgaacgatg aaagcaggaa actcttctct 800 gacttgggga gttcctacgc aaaacaactg ggcttccggg acagctgggt 850 cttcatagga gccaaagacc tcaggggtaa aagccccttt gagcagttct 900 taaagaacag cccagacaca aacaaatacg agggatggcc agagctgctg 950 gagatggagg gctgcatgcc cccgaagcca ttttagggtg gctgtggctc 1000 ttcctcagcc aggggcctga agaagctcct gcctgactta ggagtcagag 1050 cccggcaggg gctgaggagg aggagcaggg ggtgctgcgt ggaaggtgct 1100 quaggteett geaegetgtg tegegeetet ceteetegga aacagaacce 1150 tcccacagca catcctaccc ggaagaccag cctcagaggg tccttctgga 1200 accagetgte tgtggagaga atggggtget ttegteaggg actgetgaeg 1250 getggteetg aggaaggaea aactgeeeag acttgageee aattaaattt 1300 tatttttget ggttttgaaa aaaaaaaaa aaaaaaa 1337

- <210> 415
- <211> 224
- <212> PRT
- <213> Homo sapiens

## <400> 415

- Met Arg Val Ser Gly Val Leu Arg Leu Leu Ala Leu Ile Phe Ala 1 5 10 15
- Ile Val Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser 20 25 30
- Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr 35 40 45
- Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
  50 55 60
- Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala 65 70 75
- Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met 80 85 90
- Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu 95 100 105
- Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp 110 115 120
- Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu 125 130 135
- Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro 140 145 150
- Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu 155 160 165
- Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val 170 175 180
- Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
  185 190 195
- Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro 200 205 210
- Glu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe 215 220

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<210> 417
<211> 18
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<223> Synthetic oligonucleotide probe
<400> 417
ggatggccag agctgctg 18
<210> 418
<211> 26
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aaagtacaag tgtggcctca tcaagc 26
<210> 419
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<400> 419
tctgactcct aagtcaggca ggag 24
<210> 420
<211> 24
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 420
atteteteca cagacagetg gttc 24
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<210> 421

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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
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<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
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 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
 tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
 cacgccagga getegetege tetetetete teteteteae teetecetee 200
 ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
 qcaccccttc ctqqqacact atgttqttct ccqccctcct gctgqaggtg 300
 atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
 acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
 cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
 ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500
 ggacetgeac aacaatggee acaeagtgea actetetetg ecetetacee 550
 tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
 cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
 tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
 atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
 ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
 tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850
 ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900
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cqctacaatq gctcgctcac aactcccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaqqqqac attqttctcc acaqaaqaqq aqccctctaa gcttctqqta 1050 cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attqctaqaa aqattcqqaa qaaqaqqctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 qqqtqtaqqa tctqqccaga aacactqtag gagtagtaag cagatqtcct 1400 cetteceetg gacatetett agagaggaat ggacecagge tgteatteea 1450 qqaaqaactq caqaqccttc aqcctctcca aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 gaagtttggg atatacccca aagtcctcta cccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423

<211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala 1 5 10 15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln 20 . 25 30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln
35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp 50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu
65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu 80 85 90

Pro	Ser	Thr	Leu	Tyr 95	Leu	Gly	Gly	Leu	Pro 100	Arg	Lys	Tyr	Val	Ala 105
Ala	Gln	Leu	His	Leu 110	His	Trp	Gly	Gln	Lys 115	Gly	Ser	Pro	Gly	Gly 120
Ser	Glu	His	Gln	Ile 125	Asn	Ser	Glu	Ala	Thr 130	Phe	Ala	Glu	Leu	His 135
Ile	Val	His	Tyr	Asp 140	Ser	Asp	Ser	Tyr	Asp 145	Ser	Leu	Ser	Glu	Ala 150
Ala	Glu	Arg	Pro	Gln 155	Gly	Leu	Ala	Val	Leu 160	Gly	Ile	Leu	Ile	Glu 165
Val	Gly	Glu	Thr	Lys 170	Asn	Ile	Ala	Tyr	Glu 175	His	Ile	Leu	Ser	His 180
Leu	His	Glu	Val	Arg 185	His	Lys	Asp	Gln	Lys 190	Thr	Ser	Val	Pro	Pro 195
Phe	Asn	Leu	Arg	Glu 200	Leu	Leu	Pro	Lys	Gln 205	Leu	Gly	Gln	Tyr	Phe 210
Arg	Tyr	Asn	Gly	Ser 215	Leu	Thr	Thr	Pro	Pro 220	Суѕ	Tyr	Gln	Ser	Val 225
Leu	Trp	Thr	Val	Phe 230	Tyr	Arg	Arg	Ser	Gln 235	Ile	Ser	Met	Glu	Gln 240
Leu	Glu	Lys	Leu	Gln 245	Gly	Thr	Leu	Phe	Ser 250	Thr	Glu	Glu	Glu	Pro 255
Ser	Lys	Leu	Leu	Val 260	Gln	Asn	Tyr	Arg	Ala 265	Leu	Gln	Pro	Leu	Asn 270
Gln	Arg	Met	Val	Phe 275	Ala	Ser	Phe	Ile	Gln 280	Ala	Gly	Ser	Ser	Tyr 285
Thr	Thr	Gly	Glu	Met 290	Leu	Ser	Leu	Gly	Val 295	Gly	Ile	Leu	Val	Gly 300
Cys	Leu	Cys	Leu	Leu 305	Leu	Ala	Val	Tyr	Phe 310	Ile	Ala	Arg	Lys	Ile 315
Arg	Lys	Lys	Arg	Leu 320	Glu	Asn	Arg	Lys	Ser 325	Val	Val	Phe	Thr	Ser 330
Ala	Gln	Ala	Thr	Thr 335	Glu	Ala								
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<sup>&</sup>lt;211> 18 <212> DNA

<sup>&</sup>lt;213> Artificial Sequence

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<400> 424
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<210> 425
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 425
cccgatctgc ctgctgta 18
<210> 426
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 426
 ctgcactgta tggccattat tgtg 24
<210> 427
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
 cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
<210> 428
<211> 1073
<212> DNA
<213> Homo sapiens
<400> 428
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 acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
 gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150
 aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200
 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250
 accattaaca cagatgetea eactggggee agatetgeat etgttaaate 300
```

ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatect aagetcagag gaattgccac 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcaggggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 qcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 qaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg
1 5 10 15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys  $20 \\ 25 \\ 30$ 

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn 35 40 45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu
50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met
65 70 75

Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn 80 85 90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr

			•											
				95					100					105
Gln	Leu	Gly	Ala	Gln 110	Gly	Thr	Ile	Leu	Ser 115	Ser	Glu	Glu	Leu	Pro 120
Gln	Ile	Phe	Thr	Ser 125	Leu	Ile	Ile	His	Ser 130	Leu	Phe	Pro	Gly	Gly 135
Ile	Leu	Pro	Thr	Ser 140	Gln	Ala	Gly	Ala	Asn 145	Pro	Asp	Val	Gln	Asp 150
Gly	Ser	Leu	Pro	Ala 155	Gly	Gly	Ala	Gly	Val 160	Asn	Pro	Ala	Thr	Gln 165
Gly	Thr	Pro	Ala	Gly 170	Arg	Leu	Pro	Thr	Pro 175	Ser	Gly	Thr	Asp	Asp 180
Asp	Phe	Ala	Val	Thr 185	Thr	Pro	Ala	Gly	Ile 190	Gln	Arg	Ser	Thr	His 195
Ala	Ile	Glu	Glu	Ala 200	Thr	Thr	Glu	Ser	Ala 205	Asn	Gly	Ile	Gln	
210°	> 430	n												
	> 12!													
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<213	> Hor	mo S	apie	n										
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			gcgc	gggt	ga a	aggc	gcati	t gat	tgca	gcct	gcg	gcgg	cct !	50
			-											

ggagagagge gegeggtga aaggegatt gatgeaget geggegget 50
eggagegegg eggagecaga egetgaeeae gtteetetee teggteteet 100
eegeeteeag eteegegetg eeeggeagee gggagecatg egaeeeeagg 150
geeeegeege eteeegeag eggeteegeg geeteetget geteetget 200
etgeagetge eegegeegte gagegeetet gagateeeea aggggaagea 250
aaaggegeag eteeggeaga gggaggtgt ggaeetgat aatggaatgt 300
gettacaagg geeageagga gtgeetggte gagaeeggag eeetgggee 350
aatgttatte egggtaeaee tgggateeea ggtegggag gatteaaagg 400
agaaaagggg gaatgtetga gggaaagett tgaggagtee tggaeaeeea 450
aetacaagea gtgtteatgg agtteattga attatggeat agatettggg 500
aaaattgegg agtgtaeatt tacaaagatg egtteaaata gtgetetaag 550
agttttgtte agtggeteae tteggetaaa atgeagaaat geatgetge 600
agegttggta ttteaeatte aatggagetg aatgtteagg acetetteee 650
attgaageta taatttatt ggaecaagga ageeetgaaa tgaatteaee 700

aattaatat categeactt ettetgtgga aggaetttgt gaaggaattg 750 gtgetggatt agtggatgtt getatetggg ttggeacttg tteagattae 800 ecaaaaggag atgettetae tggatggaat teagtttete geateattat 850 tgaagaacta ecaaaataaa tgetttaatt tteatttget acetetttt 900 ttattatgee ttggaatggt teaettaaat gaeattttaa ataagtttat 950 gtatacatet gaatgaaaag eaaagetaaa tatgtttaea gaecaaagtg 1000 tgatteaca etgttttaa atetageatt atteatttg etteaateaa 1050 aagtggtte aatatttt ttagttggt agaataeett etteatagte 1100 acatteete aacetataat ttggaatatt gttgtggtet tttgttttt 1150 etettagtat ageatttta aaaaaatata aaagetaeca atetttgtae 1200 aatttgtaaa tgttaagaat ttttttata tetgttaaat aaaaattatt 1250 teeaaca 1257

<210> 431 <211> 243

<212> PRT

<213> Homo Sapien

## <400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly 1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala 20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg 35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala 50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro 65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys 80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn 95 100 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

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Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
                                     145
Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                                     160
Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                                     175
Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
                 185
Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
                 200
Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
                 215
Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu Glu
                 230
Leu Pro Lys
<210> 432
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<223> Synthetic oligonucleotide probe
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<223> Synthetic oligonucleotide probe
<400> 433
cgcaggacag ttgtgaaaat a 21
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<220>
<223> Synthetic oligonucleotide probe
<400> 434
 atgacgeteg tecaaggeea e 21
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actccaggca ccatctgttc tccc 24
<210> 437
<211> 19
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<223> Synthetic oligonucleotide probe
<400> 437
aagggctggc attcaagtc 19
<210> 438
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<213> Artificial Sequence
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 tgacctggca aaggaagaa 19
<210> 439
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<210> 440
<211> 19
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<212> DNA
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<211> 20
<212> DNA
<213> Artificial Sequence
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<400> 441
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<210> 442
<211> 25
<212> DNA
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<223> Synthetic oligonucleotide probe
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<210> 443
<211> 24
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 443
 ctggcaggag ttaaagttcc aaga 24
<210> 444
<211> 18
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<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 444
 aaaggacacc gggatgtg 18
<210> 445
<211> 26
 <212> DNA
 <213> Artificial Sequence
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<400> 445
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<210> 446
<211> 22
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<400> 446
caattctgga tgaggtggta ga 22
<210> 447
<211> 20
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 447
 caggactgag cgcttgttta 20
<210> 448
<211> 21
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 448
 caaagcgcca agtaccggac c 21
<210> 449
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 449
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<210> 450
<211> 18
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<213> Artificial Sequence
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<220>

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<400> 450
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<210> 451
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 451
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<210> 452
<211> 26
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 452
 ctctcccct cccttttcct ttgttt 26
<210> 453
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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<210> 454
<211> 21
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 454
 ccatgcctgc tcagccaaga a 21
<210> 455
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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<400> 455
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<211> 20
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<210> 457
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<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 457
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<210> 458
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